This document MIL-STD-973 with Interim Notice 1, 2, and 3
inserted has the pound (#) sign on the left margin to indicate
the changes to the paragraphs. Each Interim Notice has been
cited in the header on each page affected. The pages with the
figures and forms were not input electronically. Therefore
there are no figures nor forms in this electronic copy.
Please refer to the hard copy of MIL-STD-973 for the figures
and forms needed for your particular task.

                                    Thanks

                                    The Editor

FOREWORD

1.   This Military Standard is approved for use by all Departments and Agencies of the Department of Defense (DoD).

2.   MIL-STD-973 is jointly sponsored by the Office of the Secretary of Defense and the Joint Logistics Commanders. The primary purpose of this standard is to consolidate configuration management requirements which were previously scattered throughout several configuration management standardization documents. As a result of this consolidation effort, MIL-STD-973 significantly reduces the number of configuration management standards in the DoD inventory. Those standards that are superseded by MIL-STD-973 are identified in Section 6. Although consolidation is the primary purpose of this initiative, MIL-STD-973 does contain new material. Some requirements from superseded standards have been modified to clarify ambiguities or to resolve inconsistencies. Some obsolete or redundant requirements from superseded standards have been modified or deleted entirely. Computer-aided Acquisition and Logistic Support (CALS) has been addressed in this issue to the extent practicable. Also, some new requirements have been identified and included.

3.   This standard has been developed for use by both contractors and Government activities. Toward this end, the term "contractor" has been used throughout to denote an activity performing any of the requirements of this standard. A "contractor" can be either a contractor or Government activity. Wherever it is necessary to differentiate between the contractor and the tasking activity (i.e., the Government Contracting Activity which awards a contract to a contractor, the Government Program Management Office which tasks another Government activity, or a contractor which tasks a subcontractor), the term "Government" has been used throughout to denote the activity imposing the requirements of this standard on the other.

4.   This standard defines the requirements of configuration management as they apply to defense materiel items. Configuration management is a management discipline applied to configuration items (CIs) over their life cycle to ensure that the characteristics of CIs meet defined user requirements.

5. Configuration management requirements for software have been included in this standard. Where requirements are common to both hardware and software items, they are shown as requirements for CIs. Where requirements are not common to both hardware and

MIL-STD-973
INTERIM NOTICE 3
13 January 1995

NOTICE OF
CHANGE

MILITARY STANDARD
CONFIGURATION MANAGEMENT

TO ALL HOLDERS OF MIL-STD-973:

1.   This Notice of Change is being issued to facilitate the transition to
the electronic data environment for the storage, transfer and maintenance
of information. It is also an interim measure pending completion of a new
national consensus non-Government standard (NGS) on Configuration
Management, a DoD Practices Appendix to that NGS, plus simultaneous
completion of an Interface Standard containing the DoD's information
requirements only.
        a.   To facilitate electronic commerce, all requirements to use DD
Forms for the submittal of data have been deleted. The replacement
requirement is Contractor format.

        b.   All documents cited as mandatory reference documents have been
deleted from the standard in support of the recommendation on "Excessive
Referencing" contained in the Process Action Team on Military
Specifications and Standards' Blueprint for Change Report. Some of these
documents are now cited in Section 6 as useful sources of information for
specific topic areas, while other information has been imported into the
text.

2.   THE FOLLOWING PAGES OF MIL-STD-973 HAVE BEEN REVISED AND SUPERSEDE THE
PAGES LISTED:

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iii	17 April 1992	iii	REPRINTED WITHOUT CHANGE
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1	17 April 1992	1	REPRINTED WITHOUT CHANGE
2	13 January 1995	2	17 April 1992
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AMSC D7092   AREA CMAN

DISTRIBUTION STATEMENT A. Approved for public release;
                distribution is unlimited.

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3.   RETAIN THIS NOTICE AND INSERT BEFORE TABLE OF CONTENTS.

4.   Holders of MIL-STD-973 will verify that page changes indicated above have been entered. This notice will be retained as a check sheet. This issuance, together with the appended pages, is a separate publication. Each notice is to be retained by stocking points until the Military Standard is completely revised or canceled.

5.   In this Notice, pound signs (#) are used in the left margin to denote changes (additions, modifications, corrections, deletions) from the basic standard. This was done as a convenience only, and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notation and relationship to the basic standard.

Custodians: Preparing activity:
  Army - AR   OSD - DO
  Navy - AS
  Air Force - 10   (Project: CMAN-0038)
  NS - TCM

Review activities:
  Army - AM, AL, EA, AV, CR, ER, MI, AT, ME, GL, TM, SM, MD, SC,
        IE, LM, ET, AC, PT, HD, MR, TE, CE
  Navy - EC, MC, NM, OS, SH, YD, CG, OS, SH, YD
  Air Force - 10, 13, 14, 17, 26, 24
  DLA - DH
  Other Government Activities: DC

NOTICE OF
CHANGE

MIL-STD-973
INTERIM NOTICE 2 (DO)
24 NOVEMBER 1993

MILITARY STANDARD
CONFIGURATION MANAGEMENT

TO ALL HOLDERS OF MIL-STD-973:

1.   This Notice of Change is in response to the Government-Industry Data Exchange Program (GIDEP) Problem Advisory numbered XR1-P-93-02, dated 23 July 1993, titled "MIL-STD-973, SPECIFICATIONS AND STANDARDS, SYSTEMIC PROBLEMS." This Advisory identified problems associated with the application of MIL-STD-973 on contracts, with "who" does "what" with deliverables to the Government, and with the forms.

    a. We can only concur with the Advisory when it stresses that appropriate tailoring of MIL-STD-973 is required for contractual implementation. Users of this Notice of Change are referred to paragraph 1.3 on page 1 as a reminder. Tailoring guidance is provided in paragraph 6.2 on pages 101 through 119.

    b. Delivery instructions for data deliverables to the Government are not appropriate for inclusion in a MIL-STD. Such information is properly placed in the contract. Paragraphs highlighted in the Advisory as causing confusion have been revised on the change pages contained herein.

    c. Corrections to the forms are being held for the next revision of the MIL-STD. In the interim, users of the forms are advised to ignore the last sentence (in bold) of the long note at the top of each form that addresses delivery of completed forms. In all cases, completed forms are to be delivered to the Government in accordance with the contract.

2.   THE FOLLOWING PAGES OF MIL-STD-973 HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

NEW PAGE	DATE	SUPERSEDE PAGE	DATE
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61	24 NOVEMBER 1993	61	17 APRIL 1992
62	24 NOVEMBER 1993	62	17 APRIL 1992

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173         24 NOVEMBER 1993    173         17 APRIL 1992
174         17 APRIL 1992       174         REPRINTED WITHOUT CHANGE
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Custodians: Preparing activity:
Army - AR   OSD - DO
Navy - AS
Air Force - 10   (Project: CMAN-0036)
NS - TCM

Review Activities:
Army - AM, AL, EA, AV, CR, ER, MI, AT, ME, GL, TM SM, MD, SC, IE, LM,
      ET, AC, PT
Navy - EC, MC, NM, OS, SH, YD
Air Force - 26, 24,
DHA - DH
Other Government Activities: DC

User activities:
Army - HD, MR, TE, CE
Navy - CG, OS, SH, YD
Air Force - 17, 14, 13

NOTICE OF
CHANGE

MIL-STD-973
INTERIM NOTICE 1
1 DECEMBER 1992

MILITARY STANDARD
CONFIGURATION MANAGEMENT

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1.   THE FOLLOWING PAGES OF MIL-STD-973 HAVE BEEN REVISED AND
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60	17 April 1992	60	REPRINTED WITHOUT CHANGE

ASMC D6728   AREA CMAN

DISTRIBUTION STATEMENT A. Approved for public release;

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226a 1 December 1992         59      17 April 1992
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226c 1 December 1992         59      17 April 1992
226d 1 December 1992         59      17 April 1992
226e 1 December 1992         59      17 April 1992
226f 1 December 1992         59      17 April 1992
226g 1 December 1992         59      17 April 1992
226h 1 December 1992         59      17 April 1992
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software items, they are shown as requirements for computer software configuration items (CSCIs) or hardware configuration items (HWCIs), as applicable.

6. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Chief, Plans and Policy Division, CALS Evaluation and Integration Office, 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

REPRINTED WITHOUT CHANGE

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CONTENTS

1. SCOPE

1.1 <u>Scope</u>. This standard defines configuration management requirements which are to be selectively applied, as required, throughout the life cycle of any configuration item (CI):

a. Developed wholly or partially with Government funds, including non-developmental items when the development of technical data is required to support off-the-shelf equipment or software, or

b. Designated for configuration management for reason of integration, logistics support, or interface control.

1.2 <u>Applicability</u>. This standard applies to Department of Defense activities and contractors who are tasked with the application of configuration management.

1.3 <u>Tailoring of requirements</u>. This standard is applicable only to the extent specified in the tasking directive or contract Statement of Work (SOW). Contracts invoking this standard will specifically identify the appropriate applicable paragraphs and Appendices, or portions thereof, in the tasking directive or contract SOW. (See 6.2 for specific tailoring guidance.) The selection of necessary configuration management requirements from this standard to be applied to a specific program will be tailored to suit the life-cycle phase, complexity, size, intended use (including joint and combined interoperability), mission criticality, and logistics support of the CIs.

2. APPLICABLE DOCUMENTS

\#   This section does not apply to this standard since there are no
\#   documents referenced in Sections 3, 4, or 5. Section 6 contains
\#   several useful references.

3. DEFINITIONS

3.1 <u>Acronyms used in this standard</u>. The acronyms used in this standard are defined as follows:

a. ABL   -   Allocated Baseline

b. ACD   -   Allocated Configuration Documentation

c. ACSN   -   Advance Change Study Notice

d. AIS   -   Automated Information System

e. AMSDL -   Acquisition Management Systems and Data Requirements Control List

f. CAGE   -   Commercial and Government Entity

g. CAO   -   Contract Administration Office

h. CCB   -   Configuration Control Board

i. CDR   -   Critical Design Review

j. CDRL   -   Contract Data Requirements List

k. CI   -   Configuration Item

l. CM   -   Configuration Management

m. CSA   -   Configuration Status Accounting

\#   n. not used

o. CSAR   -   Configuration Status Accounting Report

p. CSCI   -   Computer Software Configuration Item

q. DID   Data Item Description

r. DLA   -   Defense Logistics Agency

s. DOD   -   Department of Defense

t. DODAAC-   Department of Defense Activity Address Code

u. DODISS-   Department of Defense Index of Specifications and Standards

v. DUI   -   Data Use Identifier

Supersedes page 3 of 17 April 1992

w. ECP   -   Engineering Change Proposal

x. EMD   -   Engineering and Manufacturing Development

y. FBL   -   Functional Baseline

z. FCA   -   Functional Configuration Audit

aa. FCD   -   Functional Configuration Documentation

ab. GFD   -   Government Furnished Data

ac. GFE   -   Government Furnished Equipment

ad. HWCI -   Hardware Configuration Item

ae. ICD   -   Interface Control Drawing

af. ICWG -   Interface Control Working Group

ag. IDD   -   Interface Design Document

ah. ILS   -   Integrated Logistics Support

ai. IRS   -   Interface Requirements Specification

aj. LSA   -   Logistics Support Analysis

ak. MRB   -   Material Review Board

al. MTS   -   Mobile Training Sets

am. NDI   -   Non-Developmental Item

an. NOR   -   Notice of Revision

ao. NSN   -   National Stock Number

ap. PBL   -   Product Baseline

aq. PCA   -   Physical Configuration Audit

ar. PCD   -   Product Configuration Documentation

as. PDI   -   Privately Developed Item

at. PDR   -   Preliminary Design Review

au. PPSL -   Program Parts Selection List

 av. RFD - Request For Deviation

 aw. RFW - Request For Waiver

 ax. SPS - Software Product Specification

 ay. SDL - Software Development Library

 az. SCN - Specification Change Notice

 ba. SOW - Statement of Work

 bb. TCTO - Time Compliance Technical Order

 bc. TRR - Test Readiness Review

 bd. VDD - Version Description Document

 be. VE - Value Engineering

 bf. VECP - Value Engineering Change Proposal

 bg. WBS - Work Breakdown Structure

  3.2 <u>Advance Change Study Notice (ACSN)</u>. A document which may be
\# used, instead of a preliminary Engineering Change Proposal, to
identify an idea or problem in order to obtain authorization to submit
a formal routine Engineering Change Proposal.

\#   3.3 <u>Allocated Baseline (ABL)</u>. The approved allocated
\# configuration documentation.

\#   3.4 <u>Allocated Configuration Documentation (ACD)</u>. The
\# documentation describing a CI's functional, performance,
\# interoperability, and interface requirements that are allocated from
\# those of a system or higher level configuration item; interface
\# requirements with interfacing configuration items; and the
\# verifications required to confirm the achievement of those specified
\# requirements.

  3.5 <u>Approval/contractual implementation</u>. The acceptance by the
Government of a document as complete and suitable for its intended
use. Approval/contractual implementation of configuration
documentation means that the approved documentation is subject to the
Government's configuration control procedures.

  3.6 <u>Block change concept</u>. For hardware configuration items, an
engineering change implementation concept that

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designates a number (i.e., a block) of consecutive productionunits of the configuration item to have an identical configuration on delivery and in operation. (Using this concept, the production run is divided into "blocks" of units. The production line incorporation point for a proposed ECP is delayed to coincide with the first unit of the next block, or retrofit is required at least for all already-delivered units of the current block.) For computer software configuration items, once the product baseline has been established, the concept requires the accumulation and the simultaneous implementation of a number of routine software changes to minimize the number of interim versions and related documentation.

\#   3.7   <u>Classification of defects</u>. The enumeration of possible
\#   defects of the unit or product, classified according to their
\#   seriousness. Defects will normally be grouped into the classes
\#   of critical, major or minor: however, they may be grouped into
\#   other classes, or into subclasses within these classes.(Source:
\#   MIL-STD-109)

3.8   <u>Commercial and Government Entity (CAGE) Code</u>. A five-position alphanumeric code with a numeric in the first and last positions (e.g., 27340, 2A345, 2AA45, 2AAA5), assigned to United States and Canadian organizations which manufacture and/or control the design of items supplied to a Government Military or Civil Agency or assigned to United States and foreign organizations, primarily for identifying contractors in the mechanical interchange of data required by MILSCAP and the Service/Agency Automated Data Processing (ADP)
\#   systems. (See 6.6)

\#   3.9   <u>Computer database</u>. See "database".

\#   3.10   <u>Computer software</u>. See "software".

3.11   <u>Computer Software Configuration Item (CSCI)</u>. A configuration item that is computer software.

3.12   <u>Computer software documentation</u>. Technical data or information, including computer listings, regardless of media, which documents the requirements, design, or details of computer software; explains the capabilities and limitations of the software; or provides operating instructions for using or supporting computer software during the software's operational life cycle.

3.13   <u>Configuration</u>. For purposes of this standard, the functional and physical characteristics of existing or planned hardware, firmware, software or a combination thereof as set forth in technical documentation and ultimately achieved in a

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product.

3.14 <u>Configuration audit</u>. See "Functional configuration audit" and "Physical configuration audit".

3.15 <u>Configuration baseline</u>. Configuration documentation formally designated by the Government at a specific time during a CI's life cycle. Configuration baselines, plus approved changes from those baselines, constitute the current approved configuration documentation. There are three formally designated configuration baselines in the life cycle of a configuration item, namely the functional, allocated, and product baselines.

3.16 <u>Configuration control</u>. The systematic proposal, justification, evaluation, coordination, approval or disapproval of proposed changes, and the implementation of all approved changes, in the configuration of a CI after establishment of the configuration baseline(s) for the CI.

3.17 <u>Configuration Control Board (CCB)</u>. A board composed of technical and administrative representatives who recommend approval or disapproval of proposed engineering changes to a CI's current approved configuration documentation. The board also recommends approval or disapproval of proposed waivers and deviations from a CI's current approved configuration documentation.

3.18 <u>Configuration documentation</u>. The technical documentation that identifies and defines the item's functional and physical characteristics. The configuration documentation is developed, approved, and maintained through three distinct evolutionary increasing levels of detail. The three levels of configuration documentation are the functional configuration documentation, the allocated configuration documentation, and the product configuration documentation.

3.19 <u>Configuration identification</u>. Configuration identification includes the selection of CIs; the determination of the types of configuration documentation required for each CI; the issuance of numbers and other identifiers affixed to the CIs and to the technical documentation that defines the CI's configuration, including internal and external interfaces; the release of CIs and their associated configuration documentation; and the establishment of configuration baselines for CIs.

3.20 <u>Configuration Item (CI)</u>. A configuration item is an aggregation of hardware or software that satisfies an end use function and is designated by the Government for separate configuration management.

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3.21 <u>Configuration Management (CM)</u>.

a. As applied to configuration items, a discipline applying technical and administrative direction and surveillance over the life cycle of items to:

   (1) Identify and document the functional and physical characteristics of configuration items.

   (2) Control changes to configuration items and their related documentation.

   (3) Record and report information needed to manage configuration items effectively, including the status of proposed changes and implementation status of approved changes.

   (4) Audit configuration items to verify conformance to specifications, drawings, interface control documents, and other contract requirements.

\#   b. As applied to digital data files, the application of selected configuration identification and configuration status accounting principles to:

   (1) Uniquely identify the digital data files, including versions of the files and their status (e.g., working, released, submitted, approved).

   (2) Record and report information needed to manage the data files effectively, including the status of updated versions of files.

3.22 <u>Configuration Management Plan (CMP)</u>. The document defining how configuration management will be implemented (including policies and procedures) for a particular acquisition or program.

3.23 <u>Configuration Status Accounting (CSA)</u>. The recording and reporting of information needed to manage configuration items effectively, including:

a. A record of the approved configuration documentation and identification numbers.

b. The status of proposed changes, deviations, and waivers to the configuration.

c. The implementation status of approved changes.

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      d.   The configuration of all units of the configuration item in
the operational inventory.

3.24 <u>Contractor</u>. An individual, partnership, company,
corporation, association or other service, having a contract with the
Government for the design, development, manufacture,
maintenance, modification, or supply of items under the terms of a
contract. A Government activity performing any or all of the above
functions is considered to be a contractor for configuration
management purposes.

3.25 <u>Data</u>. Recorded information, regardless of medium or
characteristics, of any nature, including administrative, managerial,
financial, and technical.

\#   3.26 <u>Database</u>. A collection of related data stored in one
\# or more computerized files in a manner that can be accessed by
\# users or computer programs via a database management system.

\#   3.27 <u>Defect</u>. Any nonconformance of a characteristic with
\# specified requirements. (Source: MIL-STD-109)

3.28 <u>Deficiencies</u>. Deficiencies consist of two types;

      a.   Conditions or characteristics in any item which are not in
accordance with the item's current approved configuration
documentation; or

      b.   Inadequate (or erroneous) item configuration documentation
which has resulted, or may result, in units of the item that
do not meet the requirements for the item.

3.29 <u>Design change</u>. See "engineering change".

3.30 <u>Developmental configuration</u>. The contractor's design and
associated technical documentation that defines the evolving
configuration of a configuration item during development. It is under
the developing contractor's configuration control and describes the
design definition and implementation. The developmental configuration
for a configuration item consists of the contractor's released
hardware and software designs and associated technical documentation
until establishment of the formal product baseline.

3.31 <u>Deviation</u>. A specific written authorization, granted prior
to the manufacture of an item, to depart from a particular
requirement(s) of an item's current approved configuration
documentation for a specific number of units or a specified

period of time. (A deviation differs from an engineering change in
that an approved engineering change requires corresponding revision of
the item's current approved configuration documentation, whereas a
deviation does not.)

3.32 <u>Engineering change</u>. A change to the current approved
configuration documentation of a configuration item at any point
in the life cycle of the item.

3.33 <u>Engineering change justification code</u>. A code which
indicates the reason for a Class I engineering change.

3.34 <u>Engineering change priorities</u>. The priority (emergency,
urgent, routine) assigned to a Class I engineering change which
determines the relative speed at which the Engineering Change Proposal
is to be reviewed, evaluated, and, if approved, ordered and
implemented.

3.35 <u>Engineering Change Proposal (ECP)</u>. A proposed engineering
change and the documentation by which the change is described,
justified, and submitted to the Government for approval or
disapproval.

3.36 <u>Engineering Change Proposal types</u>. A term covering the
subdivision of Class I Engineering Change Proposals on the basis of
the completeness of the available information delineating and defining
the engineering change. They will be identified as preliminary or
formal.

3.37 <u>Engineering release</u>. An action whereby configuration
documentation or an item is officially made available for its intended
use.

3.38 <u>Engineering Release Record (ERR)</u>. A record used to release
configuration documentation.

\# 3.39 <u>Evaluation</u>. The process of determining whether an
\# item or activity meets specified criteria. (Source; DoD-STD
\# -2168)

\# 3.40 <u>Exchangeability of items</u>. See 3.55 Interchangeable
\# item, 3.78 Replacement Item, and 3.82 Substitute item.

\# 3.41 <u>Firmware</u>. The combination of a hardware device and
\# computer instructions and/or computer data that reside as read-
\# only software on the hardware device.

3.42 <u>Fit</u>. The ability of an item to physically interface or
interconnect with or become an integral part of another item.

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3.43 <u>Form</u>. The shape, size, dimensions, mass, weight, and other visual parameters which uniquely characterize an item. For software, form denotes the language and media.

3.44 <u>Function</u>. The action or actions which an item is designed to perform.

3.45 <u>Functional area</u>. A distinct group of system performance requirements which, together with all other such groupings, forms the next lower-level breakdown of the system on the basis of function.

\# 3.46 <u>Functional Baseline (FBL)</u>. The approved functional
\# configuration documentation.

3.47 <u>Functional characteristics</u>. Quantitative performance parameters and design constraints, including operational and logistic parameters and their respective tolerances. Functional characteristics include all performance parameters, such as range, speed, lethality, reliability, maintainability, and safety.

3.48 <u>Functional Configuration Audit (FCA)</u>. The formal examination of functional characteristics of a configuration item, prior to acceptance, to verify that the item has achieved the requirements specified in its functional and allocated configuration documentation.

\# 3.49 <u>Functional Configuration Documentation (FCD)</u>. The
\# documentation describing the system's functional, performance,
\# interoperability, and interface requirements and the verifications
\# required to demonstrate the achievement of those specified
\# requirements.

3.50 <u>Hardware</u>. Items made of materiel, such as weapons, aircraft, ships, tools, computers, vehicles, and their components (mechanical, electrical, electronic, hydraulic, pneumatic). Computer software and technical documentation are excluded.

3.51 <u>Hardware Configuration Item (HWCI)</u>. A configuration item that is hardware.

\# 3.52 <u>Integrated Logistics Support (ILS)</u>. A disciplined
\# approach to the activities necessary to: (a) cause support
\# considerations to be integrated into system and equipment design,
\# (b) develop support requirements that are consistently related to
\# design and to each other, (c) acquire the required support, and
\# (d) provide the required support during the operational phase at
\# minimum cost. (Source: MIL-STD-1388-1)

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\#   3.53   <u>Interchangeable item</u>. One which (1) possesses such
\# functional and physical characteristics as to be equivalent in
\# performance, reliability, and maintainability, to another item of
\# similar or identical purposes; and (2) is capable of being
\# exchanged for the other item (a) without selection for fit or
\# performance, and (b) without alteration of the items themselves
\# or of adjoining items, except for adjustments. (Source: MIL-STD
\# -280)

     3.54   <u>Interface</u>. The functional and physical characteristics
required to exist at a common boundary.

     3.55   <u>Interface control</u>. The process of identifying,
documenting, and controlling all functional and physical
characteristics relevant to the interfacing of two or more items
provided by one or more organizations.

     3.56   <u>Interface Control Documentation (ICD)</u>. Interface control
drawing or other documentation which depicts physical and functional
interfaces of related or co-functioning items.

     3.57   <u>Interface Control Working Group (ICWG)</u>. For programs which
encompass a system, configuration item, or a computer software
configuration item design cycle, an ICWG is established to control
interface activity among the Government, contractors, or other
agencies, including resolution of interface problems and documentation
of interface agreements.

     3.58   <u>Interoperability</u>. The ability of the defense services and
agencies to exchange information with each other (joint operations) or
with an allied system (combined operations) to enable them to operate
effectively together.

\#   3.59   <u>Item</u>. A non-specific term used to denote any product,
\# including systems, materiels, parts, subassemblies, sets
\# accessories, etc. (Source: MIL-STD-280)

     3.60   <u>Life cycle</u>. A generic term covering all phases of
acquisition, operation, and logistics support of an item, beginning
with concept definition and continuing through disposal of the item.

     3.61   <u>Life cycle cost</u>. The total cost to the Government of
acquisition and ownership of that system over its life cycle. It
includes the cost of development, acquisition, support, and where
applicable, disposal.

     3.62   <u>Manufacturer's code</u>. See "Commercial and Government Entity
(CAGE) code".

3.63 <u>Material</u>. A generic term covering systems, equipment, stores, supplies, and spares, including related documentation, manuals, computer hardware, and software.

3.64 <u>Non-conformance</u>. The failure of a unit or product to conform to specified requirements.

3.65 <u>Non-developmental Item (NDI)</u>. Non-developmental item is a broad generic term that covers material available from a wide variety of sources with little or no development effort required by the Government. NDIs include:

a. Items obtained from a domestic or foreign commercial marketplace.

b. Items already developed and in use by the Services, other Defense activities, and Government agencies.

c. Items already developed by foreign governments which can be supplied in accordance with mutual defense cooperation agreements and Federal and DoD acquisition regulations. (SD-2)

3.66 <u>Non-recurring costs</u>. As applied to ECPs, these are one time costs, which will be incurred if an engineering change is approved and which are independent of the quantity of items changed, such as cost of redesign, special tooling, or testing.

3.67 <u>Notice of Revision (NOR)</u>. A document used to define revisions to drawings, associated lists, or other referenced documents which require revision after Engineering Change Proposal approval.

3.68 <u>Original</u>. The current design activity document or digital data file(s) of record.

3.69 <u>Physical characteristics</u>. Quantitative and qualitative expressions of material features, such as composition, dimensions, finishes, form, fit, and their respective tolerances.

3.70 <u>Physical Configuration Audit (PCA)</u>. The formal examination of the "as-built" configuration of a configuration item against its technical documentation to establish or verify the configuration item's product baseline.

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\#   3.71 <u>Product Baseline (PBL)</u>. The approved product configuration
\#   documentation. In addition to this documentation, the product
\#   baseline of a configuration item may include the actual equipment and
\#   software.

\#   3.72 <u>Product Configuration Documentation (PCD)</u>. The combined
\#   performance/design documentation utilized for the production/
\#   procurement of the CI. The PCD incorporates the ACD describing a CI's
\#   functional, performance, interoperability and interface requirements
\#   and the verifications required to confirm the achievement of those
\#   specified requirements. The PCD also includes such additional design
\#   documentation, ranging from form and fit information about the proven
\#   design to a compete design disclosure package, as is deemed necessary
\#   for the acquisition program.

        3.73 <u>Recurring costs</u>. Costs which are incurred for each item
changed or for each service or document ordered.

        3.74 <u>Release</u>. The designation by the contractor that a
document is complete and suitable for use. Release means that
the document is subject to the contractor's configuration control
procedures.

\#   3.75 <u>Repair</u>. A procedure which reduces but not completely
\#   eliminates a nonconformance and which has been reviewed and
\#   concurred in by the MRB and approved for use by the Government.
\#   The purpose of repair is to reduce the effect of the
\#   nonconformance. Repair is distinguished from rework in that the
\#   characteristic after repair still does not completely conform to
\#   the applicable drawings, specifications, or contract
\#   requirements. Proposed repairs approved by the Government are
\#   authorized for use on a one-time basis only. (Source: MIL-STD
\#   -1520)

\#   3.76 <u>Replacement item</u>. One which is interchangeable with
\#   another item, but which differs physically from the original item
\#   in that the installation of the replacement item requires
\#   operations such as drilling, reaming, cutting, filing, shimming,
\#   etc., in addition to the normal application and methods of
\#   attachment. (Source: MIL-STD-280)

        3.77 <u>Retrofit</u>. The incorporation of new design parts resulting
from an approved engineering change to an item's current approved
product configuration documentation into already accepted and/or
operational items.

\#   3.78 <u>Rework</u>. A procedure applied to a nonconformance that
\#   will completely eliminate it and result in a characteristic that
\#   conforms completely to the drawings, specifications, or contract
\#   requirements. (Source: MIL-STD-1520)

\#   3.79 <u>Software</u>. Computer programs and computer databases.

\#   3.80 <u>Software unit</u>. A logical element in the design of a
\#   CSCI; for example, a major subdivision of a CSCI, a component of
\#   that subdivision, a class, object, module, function, routine, or
\#   database. Software units may occur at different levels of a
\#   hierarchy and may consist of other software units. Software
\#   units in the design may or may not be in a one-to-one
\#   relationship with the code and data entities (routines,
\#   procedures, databases, datafiles, etc.) that implement them, or
\#   with the computer files containing those entities.

\#   3.81 <u>Specification</u>. A document prepared specifically to
\#   support acquisition which clearly and accurately describes
\#   essential technical requirements for purchasing materiel.
\#   Procedures necessary to determine that the requirements for the
\#   materiel covered by the specification have been met are also
\#   included. (Source: MIL-STD-961)

     3.82 <u>Specification Change Notice (SCN)</u>. A document used to
propose, transmit, and record changes to a specification.

\#   3.83 <u>Substitute item</u>. One which possesses such
\#   functional and physical characteristics as to be capable of being
\#   exchanged for another only under specified conditions or in
\#   particular applications and without alteration of the items
\#   themselves or of adjoining items. (Source; MIL-STD-280)

     3.84 <u>Support equipment</u>. Equipment and computer software
required to maintain, test, or operate an item or facility in its
intended environment.

     3.85 <u>Survivability</u>. The capability of a system to avoid or
withstand a hostile environment without suffering an abortive
impairment of its ability to accomplish its designated mission.

\#   3.86 <u>System</u>. A composite of equipment, skills,
\#   and techniques capable of performing or supporting and
\#   operational role, or both. A complete system includes all
\#   equipment, related facilities, material, software, services and
\#   personnel required for its operation and support to the degree
\#   that it can be considered a self-sufficient unit in its intended
\#   operational environment. (Example: Dew Line.) (Source: MIL-STD
\#   -280)

     3.87 <u>Technical data</u>. Technical data is recorded information
(regardless of the form or method of recording) of a scientific or
technical nature (including computer software documentation) relating
to supplies procured by an agency. Technical data does not include
computer software or financial, administrative, cost or pricing, or
management data or other

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information incidental to contract administration.

a. Technical data is required to define and document an
    engineering design or product configuration (sufficient to
    allow duplication of the original items) and is used to
    support production, engineering, and logistics activities.

b. A technical data package should include all engineering
    drawings, associated lists, process descriptions, and other
    documents which define the physical geometry,
    material composition, performance characteristics,
    manufacture, assembly, and acceptance test procedures.

c. Technical data which provides instructions for the
    installation, operation, maintenance, training, and support
    of a system or equipment can be formatted into a technical
    manual.

    (1) A technical manual normally includes operation and
         maintenance instructions, parts lists or parts
         breakdown, and related technical information or
         procedures exclusive of administrative procedures.

    (2) This data may be presented in any form (e.g., hard
         copy, audio and visual displays, magnetic tape, disks,
         or other electronic devices).

    (3) Technical orders that meet the criteria of this
         definition may also be classified as technical manuals.
         (Title 10, United States Code, Section 2302,
         "Definitions")

3.88 <u>Technical data package</u>. See "Technical data".

3.89 <u>Technical documentation</u>. See "Technical data".

3.90 <u>Technical reviews</u>. A series of system engineering
activities by which the technical progress on a project is assessed
relative to its technical or contractual requirements. The reviews
are conducted at logical transition points in the development effort
to identify and correct problems resulting
from the work completed thus far before the problems can disrupt or
delay the technical progress. The reviews provide a method for the
contractor and Government to determine that the development of a
configuration item and its documentation have met contract
requirements.

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3.91 <u>Training equipment</u>. All types of maintenance and operator training hardware, devices, audio-visual training aids, and related software which:

a. Are used to train maintenance and operator personnel by depicting, simulating, or portraying the operational or maintenance characteristics of an item or facility.

b. Are kept consistent in design, construction, and configuration with such items in order to provide required training capability.

\# 3.92 <u>Unit</u>. An assembly or any combination of parts, sub-
\# assemblies and assemblies mounted together, normally capable of
\# independent operation in a variety of situations. (Examples:
\# Hydraulic jack, electric motor, electronic power supply, internal
\# combustion engine, electric generator, radio receiver.) This
\# term replaces the term "component." Note. The size of an item
\# is a consideration in some cases. An electric motor for a clock
\# may be considered as a part inasmuch as it is not normally
\# subject to disassembly. (Source: MIL-STD-280)

3.93 <u>Version</u>. An identified and documented body of software. Modifications to a version of software (resulting in a new version) require configuration management actions by either the contractor, the Government, or both.

3.94 <u>Waiver</u>. A written authorization to accept an item, which during manufacture, or after having been submitted for Government inspection or acceptance, is found to depart from specified requirements, but nevertheless is considered suitable for use "as is" or after repair by an approved method.

\# 3.95 <u>Work Breakdown Structure (WBS)</u>. A work breakdown
\# structure (WBS) is a product-oriented family tree composed of
\# hardware, software, services, data and facilities which results
\# from systems engineering efforts during the acquisition of a
\# defense materiel item. A work breakdown structure displays and
\# defines the product(s) to be developed and/or produced and
\# relates the elements of work to be accomplished to each other and
\# to the end product(s). (Source: MIL-STD-881)

\# 3.96 <u>Work breakdown structure element</u>. A work breakdown
\# structure element is a discrete portion of a work breakdown
\# structure. A work breakdown structure element may be an
\# identifiable item of hardware, software, services, data or
\# facilities. (Source: MIL-STD-881)

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4. GENERAL REQUIREMENTS

4.1 <u>Basic requirements</u>. The contractor shall implement an internal configuration management system for the control of all configuration documentation, physical media, and physical parts representing or comprising the product. For software, the system shall address the evolving developmental configuration and support environments (engineering, implementation and test) used to generate and test the product. The contractor's configuration management system shall consist of the following elements:

    a.   Configuration identification.

    b.   Configuration control.

    c.   Configuration status accounting.

    d.   Configuration audits.

Contractors shall implement the requirements of this standard as identified in the contract statement of work (SOW) to CIs and shall insure compliance with those requirements by subcontractors.

4.2 <u>Planning</u>. The contractor shall plan a configuration management program in accordance with the requirements of this standard, tailored appropriately for the particular CI(s), their scope and complexity, and the contracted phase(s) of the life cycle. Planning shall be consistent with the objectives of a continuous improvement program which includes the analysis of identified problem areas and correction of procedures as necessary to prevent reoccurrence. The contractor's configuration management planning shall include:

    a.   The objectives of the configuration management program and of each applicable configuration management element;

    b.   The configuration management organization and organizational relationships;

    c.   Responsibilities and authority of configuration management managers;

    d.   Configuration management resources (tools, techniques, and methodologies);

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e. Coordination with internal and external agencies (e.g., program managers, other contractors, other Government agencies, CCBs, foreign governments);

f. Configuration management policies, processes, procedures, methods, records, reports and forms; and

g. Computer-aided Acquisition and Logistics Support (CALS) configuration management in accordance with paragraph 4.3.

4.3 <u>Computer-aided Acquisition and Logistic Support (CALS)</u>. Configuration documentation shall be provided in either hard copy data transfer, transfer of processable data files, interactive access to data through contractor integrated technical information services, or a combination of the above, as specified in the contract. The contractor's planning shall address all configuration management technical data requirements of the contract as far as data handling, processing, storage, integrity, transfer, security, and maintenance are concerned, over the performance period of the contract. The contractor shall propose to the Government, as applicable and in accordance with the changes clause of the contract, any requirements that may be imposed on the Government that will require associated contractor effort to maintain the security and integrity of shared data.

4.3.1 <u>Data distribution/access</u>. The contractor shall affix
distribution statements to technical data in accordance with the contract. Access to data shall be limited in accordance with the applicable distribution statements, as well as by data rights, Contract Data Requirements List (CDRL) distribution, security requirements, and data status level (released, submitted or
approved unless otherwise specified). (See 6.6)

4.3.2 <u>Automated processing and submittal of data</u>. To facilitate processing of submitted data, the contractor shall use automated processing and electronic submittal techniques, when specified in the contract. Where the data requirement is for data that is illustrated,
for reference purposes, herein on a DD Form (e.g., DD Form 1692 for an
ECP), the contractor may sequentially address the essential and
applicable data elements of the submitted data by block number and
title, or may provide the data on an electronic version of the form as
desired. Textual data in electronic form shall be by paragraph number, or topic heading, as applicable, in accordance with the format and content requirements for the data specified in the contract.

a. When data are submitted by electronically transferring (e.g., modem) by the contractor to the Government, acknowledgement of receipt will be generated at the end

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of the transmission. When data is electronically transferred by the Government to the contractor, acknowledgement of receipt by the contractor shall be generated at the end of the transmission. The contractor shall implement a method of error detection for data transfer to insure deliverable data products are capable of being recreated in human readable format.

b.   The contractor shall maintain the current status (working, released, submitted, approved) of all digital technical data in the data base at all times. Any data electronically transferred by the contractor to the Government shall be so identified.

c.   The contractor shall implement procedures to identify and control data during the contractor and Government review and update cycle. As a minimum, these procedures shall address:

(1)   Identification of data files submitted to the Government for review, annotation, comment and approval/disapproval, as applicable in accordance with Government specified review and approval requirements. Each submitted digital data file shall have a unique identifier (e.g., file name) which shall indicate file version, and "submitted" status. To assure file integrity, the file naming convention shall distinguish an altered (annotated, redlined) file version from the originally submitted file version by renaming it as a separate working status file.

(2)   How data and changes are transmitted.

(3)   How changes from previous versions are indicated.

(4)   Notification/acknowledgement of receipt, return, or acceptance.

(5)   Indication of time constraints, if any, for automatic data acceptance; and

(6)   Data status accounting.

4.3.3 <u>Interactive access to digital data</u>. In addition to the above requirements, the contractor's integrated technical information service shall, where contractually specified, accommodate pre-defined query and extraction of data and shall

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implement procedures that define the control of data bases and files during the Government's and contractor's interactive review and update cycles. As a minimum, the following shall be defined:

a.   How data is to be accessed;

b.   Request for access and logging of access for read-only or annotation;

c.   Naming of temporary working version of the file(s) for purpose of annotation/mark up;

d.   Means of indicating whether a comment/annotation is essential/suggested;

e.   Re-identification of marked up versions, as required;

f.   Method of indicating acceptance, provisional acceptance, approval, or rejection, as applicable;

g.   Time constraints, if any, on data acceptance (e.g., automatic approval) by any links in the contractor's or the Government's review and approval chains;

h.   Automated status accounting, including tracking of disposition of required changes; and

i.   Re-identification of changed files.

4.4 <u>Configuration identification</u>. Configuration identification shall include the selection of CIs; the determination of the types of configuration documentation required for each CI; and the issuance of numbers and other identifiers affixed to the CIs and to the technical documentation

\#   that comprises the CIs' configuration documentation.

4.5 <u>Configuration control</u>. The contractor shall apply internal configuration control measures to the configuration documentation for each CI, prior to the time that it is baselined by the Government. The contractor shall apply configuration

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control measures to each baselined configuration item, and its configuration documentation, in accordance with this standard. The configuration control program shall:

    a.   Ensure effective control of all CIs and their approved configuration documentation.

    b.   Provide effective means, as applicable, for (1) proposing engineering changes to CIs, (2) requesting deviations or waivers pertaining to such items, (3) preparing Notices of Revision, and (4) preparing Specification Change Notices.

    c.   Ensure implementation of approved changes.

    4.6 <u>Configuration Status Accounting (CSA)</u>. The contractor shall implement a CSA system. The CSA system shall:

    a.   Identify the current approved configuration documentation and identification number associated with each CI.

    b.   Record and report the status of proposed engineering changes from initiation to final approval/contractual implementation.

    c.   Record and report the results of configuration audits to include the status and final disposition of identified discrepancies.

    d.   Record and report the status of all critical and major requests for deviations and waivers which affect the configuration of a CI.

    e.   Record and report implementation status of authorized changes.

    f.   Provide the traceability of all changes from the original baselined configuration documentation of each CI.

    g.   Report the effectivity and installation status of configuration changes to all CIs at all locations.

    4.7 <u>Configuration audits</u>. Configuration audits are performed before establishing a product baseline for the item. Configuration audits consist of the Functional Configuration Audit (FCA) and the Physical Configuration Audit (PCA).

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Additional PCAs may be performed during production for selected changes to the item's configuration documentation or when contractors are changed. The contractor, in accordance with the terms of the contract, tasked with the development or production of the item shall:

    a.   Support the conduct of the FCA/PCA.

    b.   Participate in the resolution of discrepancies identified during the conduct of the FCA/PCA.

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5. DETAILED REQUIREMENTS

5.1 <u>Purpose</u>. The purpose of this section is to identify detailed requirements that should be selectively applied to a configuration management program.

5.2 <u>Configuration management administration</u>.

5.2.1 <u>Contractor's CM Plan</u>. The Contractor's Configuration Management Plan shall be in accordance with the requirements of the contract and shall describe the processes, methods, and procedures to be used to manage the functional and physical characteristics of the assigned CI(s). The contractor shall:

    a.   Develop the Contractor's Configuration Management Plan in accordance with the requirements of Appendix A (See 6.3);

    b.   Submit the plan and changes thereto in accordance with the CDRL; and

    c.   Implement the activities required by this standard in accordance with the approved plan.

5.2.2 <u>Work Breakdown Structure (WBS)</u>. The contractor shall
\#   ensure traceability of CIs to the WBS elements when a WBS is invoked
\#   in the contract.

5.2.3 <u>Technical reviews</u>. The contractor shall ensure that the configuration management representatives participate in all technical reviews conducted in accordance with the contract requirements. The role of configuration management in the technical review process shall include evaluating the adequacy of the type and content of the configuration documentation, ascertaining that the configuration documentation is under formal Government and/or internal configuration control, and determining whether problems/action items identified at the review will require submittal of Engineering Change Proposals against the current approved configuration documentation.

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5.3 <u>Configuration identification</u>.

5.3.1 <u>Purpose of configuration identification</u>. The purpose of configuration identification shall be to incrementally establish and maintain a definitive basis for control and status accounting for a CI throughout its life cycle. To accomplish configuration identification, the contractor shall, for both hardware and software:

a.   Select CIs;

b.   Select configuration documentation to be used to define configuration baselines for each CI;

c.   Establish a release system for configuration documentation;

d.   Define and document interfaces;

e.   Enter each item of configuration documentation and computer software source code into a controlled developmental configuration;

f.   Establish the functional, allocated, and product baselines at the appropriate points in the system/CI life cycle, upon Government approval/contractual implementation of the applicable configuration documentation, and in accordance with contract requirements;

g.   Assign identifiers to CIs and their component parts and associated configuration documentation, including revision and version numbers where appropriate. Assigning serial and lot numbers, as necessary, to establish the CI effectivity of each configuration of each item of hardware and software;

h.   Ensure that the marking or labeling of items and documentation with their applicable identifiers enables correlation between the item, configuration documentation, and other associated data; and

i.   Ensure that applicable identifiers are embedded in the source and object code, and where contractually specified, electronically embedded in alterable microprocessor (firmware).

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5.3.2 <u>Configuration Item selection</u>. The contractor shall select
and recommend potential CIs to the Government. Any item
\# requiring logistics support and designated for separate procurement is
a CI. However, all CIs associated with any given development program
are not necessarily designated as CIs at the same point in time.
Computer hardware will be treated as CIs. Computer software will be
treated as CSCIs throughout the life of the program regardless of how
the software will be stored. The final CI selection will be made by
the Government. (See 6.3)

5.3.3 <u>Developmental configuration</u>. The contractor shall
establish and implement a developmental configuration management
\# process for both hardware and software. This process shall be used to
control the documentation and repositories containing the elements of
the developmental configuration. The contractor shall prepare a
problem/change report to describe each problem detected in software or
documentation that has been placed under internal configuration
control. The problem/change report shall describe the corrective
action needed and the actions taken to resolve the problem. These
reports shall serve as input to the corrective action process. The
contractor shall implement a corrective action process for handling
all problems detected in the products under internal configuration
control. The corrective action process shall ensure that all detected
problems are promptly reported, action is initiated on them,
resolution is achieved, status is tracked and reported, and records of
the problems are maintained for the life of the contract.

5.3.3.1 <u>Documentation library</u>. The contractor shall establish a
documentation library and implement procedures for controlling the
documents residing within the documentation library.

5.3.3.2 <u>Drawing library</u>. The contractor shall establish a
drawing library and implement procedures for controlling the drawings,
computer aided design (CAD), and computer aided manufacturing (CAM)
instructions residing within the drawing library.

5.3.3.3 <u>Software Development Library</u>. The contractor shall
establish a software development library (SDL) and implement
procedures for controlling the software residing within the SDL.

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5.3.4 <u>Configuration baselines</u>. Configuration management normally employs three types of configuration baselines, the functional, allocated, and product baselines, to provide for the progressive definition and documentation of the requirements and design information describing the various CIs designated for a system. The contractor shall recommend to the Government the types of
\# specifications and associated documentation to a level of detail
\# commensurate with logistic support requirements and procurement
\# strategies that should be used to define each CI; however, the actual specifications provided shall be those ultimately ordered in the contract. Those specifications are subject to review and approval/contractual implementation by the Government. The appropriate baseline for each CI shall be established with the approval/contractual implementation of that specification as defined in the contract. (See 6.3)

5.3.4.1 <u>Configuration baselines and their configuration</u>
\# <u>documentation</u>. The contractor shall generate the configuration
\# documentation required for the configuration baselines being
\# established by the Government. The FCD, ACD, and PCD defining the configuration baselines shall be mutually consistent and compatible. Each succeeding level of configuration documentation from FCD to ACD to PCD shall be traceable to, and be a detailed extension of, its predecessor(s). If a conflict arises between levels of documentation, the order of precedence shall be (1) FCD, (2) ACD, and (3) PCD.

5.3.4.1.1 <u>Functional Configuration Documentation (FCD)</u>. The
\# contractor shall generate the documentation required for the
\# functional baseline. The FCD shall be in the form of a system
\# specification for a system, plus other applicable documentation (for
\# example, Interface Requirements Specifications and Interface Control
\# Documents for the system). (For Programs or contracts involving the
\# development of a single CI, a system specification should not be
\# generated.) The FCD shall also identify the configuration documentation for selected items which are to be integrated or interfaced with the CI, such as items separately developed or currently in the inventory.

5.3.4.1.2 <u>Allocated Configuration Documentation (ACD)</u>. The
\# contractor shall generate the documentation required for the allocated
\# baseline for each CI. The ACD shall define requirements allocated from the FCD or from a higher level CI to a lower level CI. The ACD
\# for the CI shall be in the form of an item or software requirements
\# specification, and other referenced documentation (for example,
\# Interface Control Documents, Interface Requirements Specifications and
\# item or software requirements specifications for lower-level CI(s), if
\# any). (For programs or contracts involving the development of a
\# single CI, the CI specifications may serve as both the functional and
\# allocated baselines.)

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5.3.4.1.3 <u>Product Configuration Documentation (PCD)</u>. The
contractor shall generate the documentation required for the product
baseline in accordance with the requirements of the contract. The PCD
shall be in the form of item, software, material, and process
specifications, engineering drawings, software listings, software
design documentation, military specifications, and other technical
documentation comprising a complete technical data package for the CI.
The PCD may also be in the form of the actual equipment and/or
software media. The PCD shall prescribe the necessary physical and
functional characteristics of the CI and the verifications required to
demonstrate required performance.

5.3.4.2 <u>Maintenance of configuration documentation</u>. Once the
related configuration baseline has been established, the contractor
shall control and maintain the originals of the current approved
configuration documentation for all configuration items specified in
the contract.

5.3.5 <u>Engineering release and correlation of manufactured
products</u>. The contractor shall establish/maintain an engineering
release system and shall use the system to issue configuration
documentation to functional activities (e.g., manufacturing,
logistics, quality assurance, acquisition) and to authorize the use of
configuration documentation associated with an approved configuration.
The contractor shall maintain current and historical engineering
release information for all configuration documentation of all
configuration items and their component parts. The engineering
release system shall interrelate with the contractor's internal system
of controls to assure that all engineering changes have been
incorporated in production items as specified. The contractor's
engineering release and control system shall meet the minimum
information content requirements and tracking capabilities specified
in Appendix B for verifying that manufactured products correlate with
the released engineering data.

5.3.5.1 <u>Specification release and approval</u>. The contractor
shall include on each CI specification a contractor's release
signature indicating that the document has been reviewed and is
suitable for its intended use. In addition, the contractor shall
submit each such specification to the Government for an approval
signature. Approval by the Government will normally be accomplished
on the version of the specification submitted for a

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baseline. Completion of the release and approval activities indicates
mutual acceptance by the Government and the contractor of the CI's
requirements, as defined in the specification and referenced
documents. After approval the specification establishes the
appropriate baseline.

5.3.5.2 <u>Requirements for Engineering Release Records (ERRs)</u>.

\#   5.3.5.2.1 <u>Use of ERRs</u>. The contractor shall generate an
\# ERR containing the information required by Appendix C to
\# authorize the use of new or revised configuration documentation.
\# The Government approved ERR authorizes the use of the approved
\# configuration documentation by all activities. The contractor
\# shall also ensure that information about the new approved
\# configuration documentation is incorporated into the CSA
\# information system. (See 4.3.2 and 6.3)

\#   5.3.5.2.2 <u>Establish configuration baselines</u>. Configuration
\# documentation comprising a baseline shall be initially entered
\# into the Government's configuration status accounting information
\# system, by means of a Government-approved ERR. Such
\# documentation, software or combinations thereof shall only be
\# submitted as a complete package, except under extraordinary
circumstances as approved by the Government.

\#   5.3.5.2.3 <u>Changes</u>. Revised configuration documentation
\# shall be entered into the Government's configuration status
\# accounting information system by means of a Government-approved
\# ERR. Such documentation, software, or combinations thereof shall
\# only be submited as a complete package, except under extraordinary
circumstances as approved by the Government.

5.3.5.2.4 <u>Consolidation of multiple changes into a single</u>
\# <u>ERR</u>. Unrelated ECPs may be combined into a single ERR if they
\# were incorporated as a single revision to a document.

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5.3.6 <u>Configuration identifiers</u>. CIs and their configuration documentation shall be assigned unique identifiers as described below.

5.3.6.1 <u>CAGE Code</u>. The design activities and the manufacturers of CIs shall be identified by the Government assigned CAGE Code, which shall be affixed to all CIs, their subordinate parts and assemblies, configuration documentation, software media and products.

5.3.6.2 <u>Government type designators and nomenclature</u>. Each CI that is designated by the Government for control, tracking and logistics purposes shall be assigned Government type designators and nomenclature in accordance with the requirements of the contract.

5.3.6.3 <u>Document numbers</u>. An identification number shall
\# be assigned and applied to specifications and to all revisions
\# thereto; and to engineering drawings, associated lists and
\# ancillary documents and to all revisions thereto.(See 6.6)

5.3.6.4 <u>Part/item identification numbers</u>. A discrete part/item identification number shall be assigned to each CI and
\# its subordinate parts and assemblies and be changed whenever a
\# non-interchangeable condition is created. (See 6.6)

5.3.6.5 <u>Software identifiers</u>. For each CSCI, the contractor
\# shall identify its corresponding software units. For each CSCI and
\# associated software units the contractor shall issue/obtain a software identifier, which shall consist of a name or number, and a version identifier, and shall relate the software to its associated software design documentation; revision; and release date. The contractor shall embed the software and version identifiers within the source code, and provide a method for display of the software and version identifier data to the user upon command.

5.3.6.6 <u>Serial/lot numbers</u>. The contractor shall assign serial/lot numbers to like items, or to groups (lots) of like items, identified with a specific Government nomenclature, unless otherwise specified in the contract. The serial/lot numbers

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shall be:

    a. A maximum of 15 alphanumeric characters, with at least the
        last 4 numeric.

    b. Unique, consecutive, and non-duplicating for all items with
        that specific nomenclature.

    5.3.6.6.1 <u>Government serial numbers</u>. The Government will
identify the serial numbers that shall be affixed to Government
designated deliverable CIs by the contractor.

    5.3.6.6.2 <u>Reuse of serial numbers</u>. The original serial number
of a unit/item/CI shall not be changed even when a change affecting
interchangeability may require rework and reidentification. Once
assigned, serial numbers shall not be reused for the same
item/unit/CI.

    5.3.6.7 <u>Product identification/marking</u>. Unless otherwise
specified in the contract, all CIs including parts, assemblies, units,
sets and other pieces of military property shall be marked
\#   with their identifiers. (See 6.6)

    5.3.6.7.1 <u>Software marking and labeling</u>. The marking and
labeling of software shall be as follows:

    a. Software identifier and version and Computer Program
        Identification Number (CPIN), where applicable, shall be
        embedded in the source code header.

    b. Each software medium (e.g., magnetic tape, disk) containing
        copies of tested and verified software entities shall be
        marked with a label containing, or providing cross-reference
        to, a listing of the applicable software identifiers of the
        entities it contains.

    c. Media for deliverable CSCIs shall be labeled with the
        Government Contract number, CSCI Number, CPIN or other
        Government identifier (if applicable), Design activity CAGE
        Code, Media Number (e.g., 1 of 2, 2 of 2) if there are
        multiple units per set and copy number of the medium or
        media set (if there is more than one copy being delivered).

    d. Media copy numbers shall distinguish each copy of the
        software media from its identical copies. Each time a new
        version of software is issued, new copy numbers, starting
        from 1, shall be assigned.

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5.3.6.7.2 <u>Firmware labeling</u>. Firmware shall be labeled on the device or, if the device is too small, on the next higher assembly, as follows:

a. Where both the hardware device and the embedded code are controlled via a single engineering drawing, the part number representing the device with the code embedded shall comprise the label.

b. Where the PCD for the source code consists of a software product specification, both the unloaded device part number and the software identifier of the embedded code, including version number, shall comprise the label. In addition, the software identification(s) shall be labeled on an identification plate or decal located adjacent to the nameplate on the equipment containing the firmware.

5.3.6.7.3 <u>NDI, COTS, and PDI labeling</u>. When a CI is wholly developed with private funding and modified to satisfy Government requirements, the CI shall be re-identified as a Government modified CI, and documented and controlled in accordance with the requirements of the contract.

5.3.7 <u>Interface management</u>.

5.3.7.1 <u>Interface requirements</u>. The interface requirements for the system and its configuration items shall be identified as a part of the system engineering process. Those interface requirements which must be controlled by the Government during the development of the system shall be incorporated into the FCD and/or ACD as applicable. Such interface requirements defined in baselined specifications shall be subject to the configuration control requirements of this standard. Prior to the PBL, the contractor shall be responsible for defining and controlling all interfaces below the ACD level. The contractor shall ensure the compatibility and interoperability among the various hardware and software components for which he is the design activity and between those components and the interfaces/components specified in the baselined configuration documentation. (See 6.3)

5.3.7.2 <u>Requirements for an Interface Control Working Group (ICWG)</u>. When required, the use of an ICWG will be specified by the contract and the interface control contractor will be identified. The contractor shall establish associate contractor agreements with interfacing contractors governing the conduct of interface control.

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5.3.7.2.1 <u>ICWG membership</u>. The contractor shall be responsible for providing a representative to the ICWG who is empowered to commit the contractor to specific interface actions and agreements; for assuring that the representative is present at all ICWG meetings; for providing draft interface control documentation at a specified period prior to the ICWG meeting where it will be discussed; for updating, releasing, and controlling interface control documentation reflecting the ICWG decisions; and for distributing copies of such released interface control documentation to other ICWG participants.

5.3.7.2.2 <u>ICWG Chairmanship</u>. The contractor designated as the interface control contractor shall act as the chair for the ICWG and shall be accountable to the Government to report interface problems as they are surfaced by the ICWG. The contractor shall be responsible for scheduling ICWG meetings; for providing the meeting space and administrative support; for distributing interface control documentation to be addressed at the upcoming ICWG; for conducting the ICWG meetings; for making interface decisions when they can be implemented within the current scope of the contracts of the participants; for coordinating ECPs as required; for recording and distributing the minutes of the ICWG meetings; and for ensuring that updated interface control documentation reflecting the ICWG decisions is distributed within the time frame agreed to by the affected

\#   participants. (See 6.3)

5.4 <u>Configuration control</u>. Configuration control is the systematic proposal, justification, evaluation, coordination, approval or disapproval of proposed changes, and the implementation of all approved changes, in the configuration of a CI after establishment of the configuration baseline(s) for the CI.

5.4.1 <u>Purpose of configuration control</u>. The contractor shall implement a configuration control function that ensures regulation of the flow of proposed changes, documentation of the complete impact of the proposed changes, and release only of approved configuration changes into CIs and their related configuration documentation. Configuration control begins with the establishment of the functional baseline and continues as further configuration baselines are established for the CIs, using the FCD, the ACDs, and the PCDs contractually invoked by the Government. Configuration control continues throughout the life cycle of the CI. The following requirements shall apply only to the FCD, the ACDs, and the PCDs which have been approved/contractually implemented by the Government.

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\#   5.4.2 <u>Requirements for Engineering Change Proposals</u>. An
Engineering Change Proposal shall be required for any changes to the
current approved configuration documentation.

5.4.2.1 <u>The engineering change process</u>. The contractor shall
include the following elements in the configuration control process.

a.   Determination of a need for the change.

b.   Establishment by the contractor of a classification of the
      engineering change as Class I or Class II.

c.   Review and evaluation of the change.

d.   Disposition of the change.

e.   Preparation of an ECP.

f.   Submittal of the ECP to the Government.

g.   Incorporation of approved (or concurred in) engineering
      changes in the documentation, including, when applicable,
      negotiation into the contract.

h.   Implementation of the change in accordance with the
      contract.

Note: Similar steps shall apply to requests for deviations and
waivers.

5.4.2.2 <u>Administrative requirements</u>.

5.4.2.2.1 <u>Classification of engineering changes</u>. An
engineering change shall be classified as Class I or Class II by the
preparing contractor in accordance with this standard. Class I ECPs
shall be referred to the Government for approval or disapproval.
Classification disagreements shall be referred to the Government for
final decision. A proposed engineering change to a CI, or to any
combination or discrete portion thereof, shall be determined to be
Class I by examining the factors below, as contractually applicable,
to determine if they would be impacted as a result of implementing the
change. The change shall be Class I if:

a.   The FCD or ACD, once established, is affected to the extent
      that any of the following requirements would be outside
      specified limits or specified tolerances:

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(1) Performance.

(2) Reliability, maintainability or survivability.

(3) Weight, balance, moment of inertia.

(4) Interface characteristics.

(5) Electromagnetic characteristics.

(6) Other technical requirements in the specifications.

NOTE: Minor clarifications and corrections to FCD or ACD shall be made only as an incidental part of the next Class I ECP and accompanying SCN or NOR, unless otherwise directed by the Government.

    b.   A change to the PCD, once established, will affect the FCD or ACD as described in 5.4.2.2.1a or will impact one or more of the following:

(1) GFE.

(2) Safety.

(3) Compatibility or specified interoperability with interfacing CIs, support equipment or support software, spares, trainers or training devices/equipment/software.

(4) Configuration to the extent that retrofit action is required.

(5) Delivered operation and maintenance manuals for which adequate change/revision funding is not provided in existing contracts.

(6) Preset adjustments or schedules affecting operating limits or performance to such extent as to require assignment of a new identification number.

(7) Interchangeability, substitutability, or replaceability as applied to CIs, and to all subassemblies and parts except the pieces and parts of non-reparable subassemblies.

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      (8) Sources of CIs or repairable items at any level defined by source-control drawings.

      (9) Skills, manning, training, biomedical factors or human-engineering design.

  c. Any of the following contractual factors are affected:

      (1) Cost to the Government including incentives and fees.

      (2) Contract guarantees or warranties.

      (3) Contractual deliveries.

      (4) Scheduled contract milestones.

5.4.2.2.2 <u>Classifying engineering changes to a privately developed item</u>. An engineering change to a PDI shall be classified Class I when it affects the contractually specified form, fit, function, or logistics support of an item or factors in 5.4.2.2.1c. When a greater degree of control is negotiated between the Government and the contractor, effects on other factors may be added to the effects on form, fit or function factors which classify an engineering change as Class I.

5.4.2.2.3 <u>Content of Engineering Change Proposals (ECPs)</u>. See 5.4.2.3.5 and 5.4.2.4.1

5.4.2.2.3.1 <u>Unrelated engineering changes</u>. A separate ECP shall be required for each engineering change which has its own distinct objective.

5.4.2.2.3.2 <u>Revisions of ECPs</u>. An ECP shall be revised when alterations or changes to the initial ECP are necessary. The first revision to an ECP shall be identified by the entry of
\# "R1" in the revision block of the ECP. Further revisions of the same ECP shall be identified by the entry of "R2", "R3", etc. The date of the ECP shall be the submission date of the revision.

  a. Major revisions to an ECP shall be made as a complete
\#   revised and resubmitted, package.

b. Minor revisions to an ECP (such as those which correct errors, add or delete information, update pricing, or provide clarifications) may be made by attaching new or
\# revised pages, indicating the new date and revision
\# level on each such page, of the ECP. This will
\# necessitate changing the page containing the date and
\# revision level (Blocks 1 and 8f), even if no other data
\# on that sheet changed.

c. In either case, the information which differs from the original ECP shall be clearly identified in a manner similar to the marking of change pages for
\# specifications. Block 19 of the ECP should include information as to whether the revision is a resubmittal, replacing the existing ECP in its entirety, or provides change pages to the existing ECP.

5.4.2.2.3.3 <u>Supporting data</u>. Formal ECPs shall be supported by drawings and other data (e.g., LSA data, detailed cost proposal data, test data and analyses) as specified in the contract to justify and describe the change and to determine its total impact including assessments of changes to system operational employment characteristics. When a life cycle cost and/or operation and support cost model has been included in the contract, the ECP shall also include the costs expected to result from the implementation of this change into all future production and spare items projected to be procured for the program and all projected operation and support costs for operation of the total inventory of items by the Government. A summary of any testing done by the contractor to validate concepts or new technology to be employed in the proposed engineering change shall be presented in the supporting data, and details of such test data shall be provided if it is vital to the decision regarding acceptance of the change.

5.4.2.2.3.4 <u>Classified data</u>. When practicable, the ECP should be unclassified. Classified data essential to the evaluation and disposition of an ECP shall be submitted separately in accordance with the approved security procedures and referenced in the unclassified portion of the ECP. The contractual DD Form 254 or DoD Contract Security Classification Specification applies.

5.4.2.3 <u>Class I engineering change proposals</u>. Class I engineering changes should be limited to those which are necessary or offer significant benefit to the Government. Such changes are those required to:

a. Correct deficiencies.

b. Add or modify interface or interoperability requirements.

c. Make a significant and measurable effectiveness change in the operational capabilities or logistics supportability of the system or item.

    d.   Effect substantial life cycle costs/savings, or

    e.   Prevent slippage in an approved production schedule.

    5.4.2.3.1 <u>Class I ECP decisions</u>.

    5.4.2.3.1.1 <u>Target for technical decision on Class I ECPs</u>. The
criticality of the need for decision will dictate the actual
processing time for ECPs. Emergency and urgent ECPs should be
proposed based upon the targets below unless otherwise agreed to
between the contractor and the Government. Processing targets for
routine ECPs will be tailored to maximize cost effectiveness,
recognizing the program, system, and ECP complexity. The target for
technical decision on Class I ECPs assigned the various priorities
(see 5.4.2.3.4) will be the following:

    a.   Emergency   48 hours

    b.   Urgent   30 calendar days

    c.   Routine   90 calendar days

    5.4.2.3.1.2 <u>ECP authorization</u>. Unless otherwise specified by
the Government, receipt of contractual authorization shall constitute
the sole authority for the contractor to effect a Class I change.
Authorization of the change granted by the Government will include
reference to the ECP by number, revision (if applicable), and date.
Such authorization will normally not occur until the Government has
performed a review for technical adequacy and supportability.

    5.4.2.3.1.3 <u>Class I compatibility engineering changes</u>. This
category of change is intended to allow expeditious corrective action
when the need for a change has been discovered during system or item
functional checks or during installation and checkout. The contractor
shall notify the Government by written message within 48 hours after
determining that a compatibility change is necessary. The message
shall define the need for a compatibility change and identify factors
that will be impacted, including estimated costs and schedules.
Unless otherwise prohibited by the contract, corrective action may
then be implemented immediately by the contractor to resolve such
incompatibilities, but only for the specific item(s) situated in the
location at which the deficiency was originally discovered. All
aspects of the compatibility definition (reference paragraph
5.4.2.3.2b) must apply. In addition, a Class I compatibility ECP
shall be required within 30 days after initial notification. Where
further action is necessary due to "lead time"
considerations, the contractor may initiate procurement or

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manufacturing action and shall advise the Government with a change message referencing the serial number(s) and locations of additional items involved. The contractor assumes total risk for implementation of such a change prior to Government authorization, except in those cases where the Government caused the incompatibility.

5.4.2.3.1.4 <u>Disapproval of ECPs</u>. When the Government disapproves an ECP, the originator will be notified in writing within 30 calendar days of the decision and will be given the reason(s) for the disapproval.

5.4.2.3.2 <u>Class I ECP justification codes</u>. Justification codes corresponding with the criteria necessary for beneficial engineering changes are listed below. If more than one of these codes are applicable, the one which is the most descriptive or significant shall be assigned to the ECP.

    a.   <u>Interface (Code B)</u>. Code B shall be assigned to an engineering change proposed to eliminate incompatibility between CIs.

    b.   <u>Compatibility (Code C)</u>. Code C shall be assigned to an engineering change to correct a deficiency with the following characteristics:

        (1)   The need for the change has been discovered during the system or item functional checks or during installation and checkout and is necessary to make the system or item work.

        (2)   By assigning the compatibility code the contractor is declaring that the effort required to accomplish the change is considered to be within the scope of the existing contract except for changes caused by the Government.

        (3)   Contractual coverage completing the formal documentation of the engineering change will not reflect an increase in contract price for the corrective action in production and to delivered items in-warranty or otherwise stipulated in the contract.

    c.   <u>Correction of deficiency (Code D)</u>. Code D shall be assigned to an engineering change which is required to eliminate a deficiency, unless a more descriptive separate code applies. Such separate codes are used to

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identify deficiencies of the nature of safety, interface, or
compatibility.

d. <u>Operational or logistics support (Code O)</u>. Code O shall be
    assigned to an engineering change which will make a
    significant effectiveness change in operational capabilities
    or logistics support.

e. <u>Production stoppage (Code P)</u>. Code P shall be assigned to
    an engineering change which is required to prevent slippage
    in an approved production schedule. This code applies when
    production to the current configuration documentation either
    is impracticable or cannot be accomplished without delay.

f. <u>Cost reduction (Code R)</u>. Code R shall be assigned to an
    engineering change which will provide a net total life cycle
    cost savings to the Government, but which is not being
    submitted pursuant to the Value Engineering clause of the
    contract. The savings in life cycle cost should include all
    effects on cost and price for the effort and requirements
    covered by the contract(s) currently in effect for this
    contractor, plus the costs resulting from necessary
    associated changes in delivered items, and logistics
    support.

g. <u>Safety (Code S)</u>. Code S shall be assigned to an engineering
    change for correction of a deficiency which is required
    primarily to eliminate a hazardous condition. When this code
    is assigned, a system hazard
    analysis shall be included with the ECP. (See 6.6)

h. <u>Value engineering (VE) (Code V)</u>. Code V shall be assigned
    to an engineering change which will effect a net life cycle
    cost reduction and which is submitted pursuant to the VE
    clause of the contract.

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5.4.2.3.3 <u>Class I ECP types</u>. There are two types of Class I ECPs, preliminary and formal. The type of Class I ECP appropriate to the circumstances shall be selected in accordance with the following definitions and guidelines.

5.4.2.3.3.1 <u>Preliminary change proposal</u>. A preliminary change proposal is the type which may be submitted to the Government for review prior to the availability of the information necessary to support a formal ECP. It shall include a summary of the proposed change, its impact on related areas, and a justification.

5.4.2.3.3.1.1 <u>Use of preliminary ECPs (Type P)</u>. A preliminary ECP may be prepared and submitted for one of the following purposes:

   a.   To furnish the Government with available information in
         order to permit:

      (1)   A preliminary evaluation relative to the merits of the
            proposed change (e.g. installation of a proposed change
            for the purpose of evaluation and testing prior to
            making a final decision to proceed with a proposed
            change); or,

      (2)   A determination regarding the desirability of
            continuing expenditures required to further develop the
            proposal.

   b.   To provide alternative proposals; or

   c.   To supplement a message relative to an emergency or urgent
         priority ECP when it is impracticable to submit a formal ECP
         within 30 calendar days; or

   d.   To propose a software change prior to the development of the
         actual coding changes and to obtain Government approval to
         proceed with software engineering development.

5.4.2.3.3.1.2 <u>Use of Advance Change Study Notice (ACSN)</u>. Prior to the preparation of a formal Routine ECP, the contractor and the Government should agree on the need for detailed information to be provided about the change idea involved. An ACSN, or a contractor letter summarizing the change idea, shall be used by either the contractor or the Government to identify a

Figure 1. Advance Change Study Notice

topic for a change proposal. (Emergency, urgent, and compatibility type ECPs do not require an ACSN prior to submittal.) If the contractor originates a change idea, the required information shall be provided for Government review. Upon receipt of a Government-originated ACSN, the contractor shall evaluate the change idea (and any alternative courses of action identified by the Government). If authorized to do so by the contract or the ACSN transmittal letter, and if in agreement with the change idea, the contractor shall proceed with preparation of the formal Routine ECP. Otherwise, the contractor shall provide additional information about the change to the Government for further study. In any case, the contractor shall not proceed with the preparation of the formal ECP until directed to do so by the Government. The DD Form 2616, "Advanced Change Study Notice (ACSN)," Figure 1, is not a requirement of this standard and is for reference only. Detailed instructions on the information required for an ACSN are noted in Blocks 6 through 10 of Figure 1. ACSN's shall be prepared in contractor format containing the information required in Figure 1 in Block number sequence. (When ACSNs are required by the contract, the procedures shall be documented in the CM Plan.) (See 4.3.2 and 6.3)

    5.4.2.3.3.2 Use of Formal ECP (Type F). A formal ECP is the type which provides engineering information and other data in sufficient detail to support formal change approval/contractual implementation.

    5.4.2.3.4 Class I engineering change priorities. A priority shall be assigned to each Class I ECP based upon the following definitions. The assigned priority will determine the time frame in which the ECP is to be reviewed, evaluated, ordered, and implemented. The proposed priority is assigned by the originator and will stand unless the Government has a valid reason for changing the priority.

    a. Emergency. An emergency priority shall be assigned to an engineering change proposed for either of the following reasons:

        (1) To effect a change in operational characteristics which, if not accomplished without delay, may seriously compromise national security;

        (2) To correct a hazardous condition which may result in fatal or serious injury to personnel or in extensive damage or destruction of equipment. (A hazardous condition usually will require withdrawing the item from service temporarily, or suspension of the item operation, or discontinuance of further testing or development pending resolution of the condition.); or

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(3) To correct a system halt (abnormal termination) in the production environment such that CSCI mission accomplishment is prohibited.

b. Urgent. An urgent priority shall be assigned to an engineering change proposed for any of the following reasons:

(1) To effect a change which, if not accomplished expeditiously, may seriously compromise the mission effectiveness of deployed equipment, software, or forces; or

(2) To correct a potentially hazardous condition, the uncorrected existence of which could result in injury to personnel or damage to equipment. (A potentially hazardous condition compromises safety and embodies risk, but within reasonable limits, permits continued use of the affected item provided the operator has been informed of the hazard and appropriate precautions have been defined and distributed to the user.); or

(3) To meet significant contractual requirements (e.g., when lead time will necessitate slipping approved production or deployment schedules if the change was not incorporated); or

(4) To effect an interface change which, if delayed, would cause a schedule slippage or increase cost; or

(5) To effect a significant net life cycle cost savings to the Government, as defined in the contract, through value engineering or through other cost reduction efforts where expedited processing of the change will be a major factor in realizing lower costs.

(6) To correct unusable output critical to mission accomplishment;

(7) To correct critical CI files that are being degraded; or

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(8) To effect a change in operational characteristics to implement a new or changed regulatory requirement with stringent completion date requirements issued by an authority higher than that of the functional proponent.

c. <u>Routine</u>. A routine priority shall be assigned to a proposed engineering change when emergency or urgent is not applicable.

5.4.2.3.4.1 <u>Expediting Class I engineering changes with priority of emergency or urgent</u>. ECPs carrying a priority of emergency shall, and ECPs carrying a priority of urgent may, be reported to the Government by telephone, message, personal contact, electronic transmission or other expeditious means. All communications shall be identified by the ECP number. If the initial communication regarding a proposed change was by other than written message, it shall be confirmed by written message in a format essentially similar to Figure 2 within 24 hours, and followed by a formal ECP within 30 days after the first communication unless otherwise specified by the Government. However, if it is impractical to complete a formal ECP within 30 days due to the necessity for extensive development, a preliminary ECP may be submitted within a 30 day period followed by a formal ECP at a specified interval thereafter. The preliminary or formal ECP shall carry the same ECP number as the written message and shall include reference to:

a. Method and date of the original communication.

b. Individuals contacted.

c. Source of resultant contractual direction, if any.

5.4.2.3.5 <u>Format for Class I engineering changes</u>.
\# Contractor format is acceptable for proposing Class I engineering
\# changes, as long as the ECP contents are presented in Block
\# Number sequence as presented in Appendix D. The following
\# paragraphs, and Table I, prescribe the contents by Block Number
\# that are required to fully document the impact of the engineering
\# change. (See 4.3.2 and 6.3)

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Table I. Appendix D Information Block Number Content Requirements for an ECP.

REQUIRED CONTENTS		LIFE CYCLE PHASES			
INFORMATION BLOCK NUMBERS	USAGE	Concept Exploration and Definition	Demonstration and Validation	Engineering and Manufacturing Development	Production and Deployment Operations and Support
1 through 27	Cover Sheet	REQUIRED Only when functional characteristics are to be controlled	REQUIRED Cover sheet summarizes the ECP	REQUIRED Cover sheet summarizes the ECP	REQUIRED Cover sheet summarizes the ECP
28 through 36	Effects on Functional Allocated Configuration Identification	NOT REQUIRED	REQUIRED USED to: Describe proposal changes in functional configuration identification	REQUIRED USED to: Describe Proposed changes in functional or allocated configuration identification as defined by system and appropriate item specification	REQUIRED if: (a) System specification change is associated with design change (b) Two part specification method used and Part I specification needs to be changed (c) Development and production fabrication specification used and development specification needs to be changed
37 through 50	Effects on Product Configuration Identification Operations and Logistic	NOT REQUIRED	NOT REQUIRED	REQUIRED when: Prototypes are undergoing operational and service testing USED to: Provide an index to impacts of the change	REQUIRED USED to: Describe effects of change in product configuration identification changes in parts or assembles & impact on logistic elements
51	Estimated Net Total Cost Impact (one item)	NOT REQUIRED	NOT REQUIRED	REQUIRED when: (a) ECP requires change to contract cost (b) Future production cost is a consideration in evaluating desirability of effecting the proposed change	REQUIRED USED to: Tabulate cost impact
52	Estimated Cost/Savings Summary Related ECPs	NOT REQUIRED	NOT REQUIRED	REQUIRED if: (a) There are related ECPs applying to two or more items (b) New trainers or items of support equipment are required USED to: Summarize cost impact of all related ECPs	REQUIRED if: (a) There are related ECPs applying to two or more items (b) New trainers or items of support equipment are required USED to: Summarize cot impact of all related ECPs
56	Milestone Chart	NOT REQUIRED	NOT REQUIRED	REQUIRED if: There is a schedule change in more than delivery date for item USED to: Show inter-relationships in schedules	REQUIRED if: There is a schedule change in more than delivery date for item USED to: Show inter-relationship in schedules
60	Milestone Chart	NOT REQUIRED	NOT REQUIRED	REQUIRED if: There is a schedule change in more than delivery date for a software intensive only item	REQUIRED if: Show inter-relationship in software intensive only schedules

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(Originator name, address, date and standard message transmittal
information not shown below)

CAGE Code _____   Government Contract No._____

ECP Number_____

1.   Urgent (or emergency) priority engineering change affecting

_____

(Show contract item nomenclature, part number or type designation.)

Is required because _____

(State reason for action and reference applicable documents.)

2.   Action required to correct the condition (s) noted by the urgent (or emergency condition is:

(This paragraph shall provide a description of the proposed engineering change.)

3.   The ECP shall be accomplished on serial numbers _____
at an estimated cost of _____ against contracts:

(Show breakout by contract number.)

4.   The following support equipment must be modified (or new support
equipment must be delivered) concurrently with this change: *

(If there is no effect on support equipment, include a statement to that effect.)

5.   Interim support to be provided: *(address applicable areas)*

a. Spares   d. Software
b. Technical Manuals   e. Other
c. Training

6.   Additional information may be included when available. However, reporting
and initiating action to correct urgent or emergency conditions shall not
be delayed pending the availability of additional information.

7.   Point of contact for this change is_____
(Provide the name, code and phone number or the person to be contacted.)

FIGURE 2.   Sample Engineering Change Proposal Message Format

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5.4.2.3.5.1 <u>Class I engineering changes - functional</u>
<u>baseline</u>. Class I engineering changes submitted after
establishment of the functional baseline, and prior to the

\# establishment of either the allocated or product baselines, shall
\# conform to the following requirements: Blocks 1 through 27, (See
\# Appendix D) shall be used summarize the engineering change.
\# Blocks 28 through 36, (See Appendix D) shall be used to describe
proposed changes in the mission, performance, and other
requirements of the specification.

\#   5.4.2.3.5.2 <u>Class I engineering changes - allocated</u>
\# <u>baseline</u>. Class I engineering changes submitted after
\# establishment of the functional and allocated baselines, and
\# prior to the establishment of the product baseline, shall conform
\# to the following requirements:

\#   a.   Blocks 1 through 27 shall be used to summarize the
engineering change.

\#   b.   Blocks 28 through 36 shall be used to describe changes
from the FCD or ACD defined by the system specification
and each pertinent item specification. As required, the
detailed text of proposed changes in each of these
specifications is furnished as enclosures, but the
\#   Block-required information shall be furnished to
summarize significant effects on specifications.

    c.   If prototypes of items are undergoing operational
evaluation or service tests, changes in the hardware or
software of such existent or subsequent prototype
\#   models shall be described as required for Blocks 3#
through 50, (See Appendix D).

\#   d.   Blocks 51, 52, 56 and 60 shall be used as prescribed in
5.4.2.3.5.3, when applicable. (See Appendix D)

\#   5.4.2.3.5.3 <u>Class I engineering changes - product baseline</u>.
\# Class I engineering changes submitted after establishment of the
\# product baseline shall conform to the following requirements:

\#   a.   Blocks 1 through 27 shall be used to summarize the
engineering change.

\#   b.   Blocks 28 through 36 may be required. If changes are
proposed to the current approved FCD or ACD, this
\#   information must be submitted.

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\#   c.   Blocks 37 through 50, with applicable enclosures, shall
be used to identify the effects of the proposed change to

the PCD, logistics and operations. Retrofit information
shall be included in Blocks 40 through 47.

\# d. Block 51 (See Appendix D) shall be used to tabulate the
       net life cycle cost impact of the individual ECP.
\#   Entries under "other costs/savings" to the Government
  need be made only to the extent estimated costs/savings
  data are available to the contractor.

\# e. Block 52 (See Appendix D) is applicable either when there
       are related ECPs as described by 5.4.2.3.6.1 and
       5.4.2.3.6.3 or when new trainers or support equipment
       will be required as a result of the ECP. The net total
       life cycle cost impacts (increase or decrease) of the
       individual related ECPs shall be summarized together with
       all related ILS costs which have not been included in the
       individual ECPs. Entries regarding related ECPs of other
       prime contractors shall be made by integrating
       contractors; otherwise, such entries need be made by a
       prime contractor only to the extent such data are
       available to the prime.

\# f. Block 56 and/or 60 (See Appendix D) is required if there
       is a revision in the schedule actions other than delivery
       of the item which is the subject of the ECP.
\#   Block 56 and/or 60 is not required if the revision in the
       schedule can be fully described either in Block 19 or by
       reference therein to a revised schedule for the
\#   subject item. When required, Block 56 and/or 60 shall be
       used as a graphic presentation of the time phasing of
       major actions involved in all related engineering changes
       to hardware, software and associated updating of
       documentation.

    5.4.2.3.6 <u>Related engineering changes</u>.

    5.4.2.3.6.1 <u>Related engineering changes - single prime</u>. A
desired engineering change in one item (the basic engineering
change) may require related engineering changes in other items in
order to retain (or attain) either an interface match or
compatibility and interoperability of associated items. When such
an engineering change is proposed and when the basic item and other
items affected by related engineering changes are the

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responsibility of a single prime contractor, the ECP package shall include both the basic and all such related engineering changes.

5.4.2.3.6.2 <u>Related engineering changes - single prime - multiple procuring activities</u>. The basic ECP number shall be assigned to the ECP applicable to the item which is the immediate objective of the desired ECP. Related ECPs submitted to the Government shall be identified by the basic number plus a separate dash number for each procurement activity.

5.4.2.3.6.3 <u>Related engineering changes - separate primes</u>. When a desired engineering change in one item (the basic engineering change) requires related engineering changes in other items which are the responsibility of other prime contractors who are participating in a specific item development or production program, the basic ECP and its impact on other items shall be coordinated by the originating contractor as required prior to submission to the Government. Coordinating contractors are not required to provide cost and pricing data to other contractors. The technical basis for the change and technical effects of the change shall be coordinated. The coordinated basic ECP shall include data showing the extent of coordination and its results, when applicable and available, to the related ECPs of the other prime contractors. Likewise, the basic and each related ECP, when submitted by its separate prime, shall cross-reference the basic and other related ECPs.

5.4.2.3.6.4 <u>Same engineering change - prime/subcontractor coordination</u>. When the contractor, as the prime contractor to the Government for an item, is also a subcontractor to another prime contractor(s) for that same item, initiates an ECP on that item, he shall coordinate the ECP with the other prime contractor(s) prior to submission. The ECP shall include data on the extent and results of such coordination.

5.4.2.3.6.5 <u>Same engineering change - several contractors</u>. Unless otherwise specified, when the Government has contracts with two or more prime contractors for the same item, the Government will conduct such coordination of ECPs as it deems necessary.

5.4.2.4 <u>Class II engineering changes</u>. An engineering change which impacts none of the Class I factors specified in 5.4.2.2.1 shall be classified as a Class II engineering change.

\#   5.4.2.4.1 <u>Class II engineering change format</u>. Contractor
\#   format for Class II engineering changes is acceptable. Class II
\#   engineering changes requiring Government approval shall contain
\#   the information required for Blocks 1 through 27 of Appendix D.

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\# Class II engineering changes requiring Government concurrence in
\# classification only shall include, as a minimum:
\# (See 4.3.2 and 6.3)

      a.   Name and part number of item affected.

      b.   Name and part number of next higher assembly.

      c.   Description of the engineering change.

      d.   Reason for making the engineering change.

\#   e.   All Government contract number(s) against which the change
\#   will be submitted.

      f.   Change document number.

5.4.2.4.2 <u>Class II justification codes</u>. The justification codes for Class I engineering changes need not be applied to a Class II engineering change.

5.4.2.4.3 <u>Concurrence in Class II changes</u>. Unless otherwise specified by the Government, or unless 5.4.2.4.4 or 5.4.2.4.5 applies, Government review of Class II changes during production will consist of a technical evaluation of the change and of material substitutions to support concurrence in classification recommendations. The contractor shall obtain Government concurrence prior to or concurrent with the release of the Class II change. The contractor assumes total risk for implementation of changes prior to notification of Government concurrence.

5.4.2.4.4 <u>Approval of Class II changes</u>. When the Government has required by contract that it approve each Class II change, the contractor shall not implement the change until approved by the Government.

5.4.2.4.5 <u>Non-custody of the original drawings</u>. When the contractor or his subcontractors do not have custody of the original drawings delineating the detail design, and when compliance with such drawings is a contract requirement, each Class II engineering change is subject to approval by the Government prior to implementation as specified in the contract.

5.4.3 <u>Requirements for Requests for Deviation (RFD)</u>. The contractor shall not manufacture items for acceptance by the Government that incorporate a known departure from requirements, unless a request for a deviation has been approved in accordance

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with the requirements of this standard. Authorized deviations are
a temporary departure from requirements and do not constitute a
change to the FCD, ACD,or PCD. Prior to manufacture of an item, if
a contractor considers it necessary to temporarily depart from the
requirements, the contractor may request a deviation. Deviations
do not apply to software code listings. Where it is determined
that a change should be permanent, a Class I or Class II
engineering change must be processed in accordance with this
standard.

    5.4.3.1 <u>Restrictions on deviations</u>. Unless unusual
circumstances exist, critical deviations and deviations which would
affect service operation, logistic interoperability, or maintenance
(e.g., repair parts, operation or maintenance procedures, or
compatibility with trainers or test sets) shall not be requested.
The effectivity of the request for deviation normally should not
include the entire remaining number of deliverable units on the
contract; if that is the case, an engineering change should be
submitted.

    5.4.3.2 <u>Recurring deviations</u>. Submittal of recurring
deviations is discouraged and shall be minimized. If a proposed
deviation is recurring (a repetition or extension of a previously
approved deviation), it is probable that either the requirements of
the documentation are too stringent or the corrective action of the
manufacturer was ineffective. If it is necessary for a contractor
to request a deviation for the same situation with the same item
more than two times, then the need for an engineering change,
rather than a deviation, shall be addressed between the Government
and the contractor.

    5.4.3.3 <u>Classification of deviations</u>. Each request for
deviation shall be designated as critical, major, or minor by the
originator in accordance with this standard. Classification
disagreements shall be referred to the Government for decision.

    5.4.3.3.1 <u>Minor</u>. A deviation shall be designated as minor
when:

    a.   The deviation consists of a departure which does not
        involve any of the factors listed in 5.4.3.3.3 or
        5.4.3.3.2 or

    b.   When the configuration documentation defining the
        requirements for the item classifies defects in
        requirements and the deviations consist of a departure
from a requirement classified as minor.

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5.4.3.3.2 <u>Major</u>. A deviation shall be designated as major when:

    a.   The deviation consists of a departure involving: (1) health; (2) performance; (3) interchangeability, reliability, survivability, maintainability, or durability of the item or its repair parts; (4) effective use or operation; (5) weight; or (6) appearance (when a factor) or

    b.   When the configuration documentation defining the requirements for the item classifies defects in requirements and the deviations consist of a departure
\#   from a requirement classified as major.

5.4.3.3.3 <u>Critical</u>. A deviation shall be designated as critical when:

    a.   The deviation consists of a departure involving safety or

    b.   When the configuration documentation defining the requirements for the item classifies defects in requirements and the deviations consist of a departure
\#   from a requirement classified as critical.

\#   5.4.3.4 <u>Format</u>. Contractor format for the Request for
\# Deviation (RFD) is acceptable. Each RFD shall contain all
\# information required by Appendix E presented in Block Number\#
sequence. (See 4.3.2 and 6.3)

5.4.3.5 <u>Disposition of deviations</u>. Unless otherwise specified in the contract, requests for critical or major deviations should be approved or disapproved within 30 calendar days of receipt by the Government, and minor deviations should be approved or disapproved within 15 calendar days of receipt by the Government.

5.4.3.5.1 <u>Minor deviations</u>. Unless otherwise specified by the Government, minor deviations shall be authorized (or disapproved) for the Government by the activity authorized to approve or concur in classification of Class II changes.

5.4.3.5.2 <u>Critical and major deviations</u>. Critical and major deviations shall be approved in accordance with the terms of the contract.

5.4.4 <u>Requirements for Requests for Waiver (RFW)</u>. The contractor shall not offer, for acceptance by the Government, items that incorporate a known departure from requirements, unless a request for waiver has been approved in accordance with this standard. Authorized waivers apply to a specific quantity of manufactured items and do not constitute change to the FCD, ACD, or PCD. The contractor may process a request for waiver if, during or after manufacture of an item which incorporates a known departure from requirements, it is determined that the item is considered suitable for use "as is" or after repair by an approved method. Waivers do not apply to software code listings. Where it is determined that a change should be permanent, a Class I or Class II engineering change must be processed in accordance with this standard.

5.4.4.1 <u>Restrictions on waivers</u>. Unless unusual circumstances exist, critical waivers and waivers which would affect service operation, logistic interoperability, or maintenance (e.g., repair parts, operation or maintenance procedures, or compatibility with trainers or test sets) shall not be requested. The effectivity of the request for waiver normally should not include the entire remaining number of deliverable units on the contract; if that is the case, an engineering change should be submitted.

5.4.4.2 <u>Recurring waivers</u>. Submittal of recurring waivers is discouraged and shall be minimized. If a proposed waiver is recurring (a repetition or extension of a previously approved waiver), it is probable that either the requirements of the documentation are too stringent or the corrective action of the manufacturer was ineffective. If it is necessary for a contractor to request a waiver for the same situation with the same item more than two times (or for the remainder of the contracted quantity of deliverable units), then the need for an engineering change, rather than a waiver, shall be addressed between the Government and the contractor.

5.4.4.3 <u>Classification of waivers</u>. Each request for waiver shall be designated as critical, major, or minor by the originator in accordance with this standard. Classification disagreements shall be referred to the Government for decision.

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5.4.4.3.1 <u>Minor</u>. A waiver shall be designated as minor when:

a.   The waiver consists of acceptance of an item having a
     nonconformance with contract or configuration
     documentation which does not involve any of the factors
     listed in 5.4.4.3.3 or 5.4.4.3.2.

b.   When the configuration documentation defining the
     requirements for the item classifies defects in
     requirements and the waivers consist of a departure
from a requirement classified as minor.

5.4.4.3.2 <u>Major</u>. A waiver shall be designated as major when:

a.   The waiver consists of acceptance of an item having a
     nonconformance with contract or configuration
     documentation requirements involving: (1) health;
     (2) performance; (3) interchangeability, reliability,
     survivability, or maintainability of the item or its
     repair parts; (4) effective use or operation; (5) weight;
     or (6) appearance (when a factor).

b.   When the configuration documentation defining the
     requirements for the item classifies defects in
     requirements and the waivers consist of a departure
from a requirement classified as major.

5.4.4.3.3 <u>Critical</u>. A waiver shall be designated as critical
when:

a.   The waiver consists of acceptance of an item having a
     nonconformance with contract or configuration
     documentation involving safety; or

b.   When the configuration documentation defining the
     requirements for the item classifies defects in
     requirements and the waivers consist of a departure
from a requirement classified as critical.

5.4.4.4 <u>Format</u>. Contractor format for the Request for
Waiver (RFW) is acceptable. Each RFW shall contain all
information required by Appendix E presented in Block Number#
     sequence. (See 4.3.2 and 6.3)

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\#
\#

5.4.4.5 <u>Disposition of waivers</u>. Unless otherwise specified in the contract, requests for critical or major waivers should be approved or disapproved within 30 calendar days of receipt by the Government, and minor waivers should be approved or disapproved within fifteen calendar days of receipt by the Government.

5.4.4.5.1 <u>Minor waivers</u>. Unless otherwise specified by the Government, minor waivers shall be dispositioned by the local Material Review Board (MRB) when such a board is properly constituted, or in the absence of such MRB by the Contract Administration Office (CAO).

5.4.4.5.2 <u>Critical and major waivers</u>. Critical and major waivers shall be approved in accordance with the terms of the contract.

5.4.5 <u>Parts substitutions</u>. Unless otherwise specified by contract, part substitution for parts identified in the current approved configuration documentation of an item from the product baseline through the remainder of the item's life cycle shall conform as follows:

a. Substitution of a non-repairable part for an item for which the contractor has configuration documentation custody shall not require a Class I or Class II engineering change or a request for deviation or waiver when:

(1) The part is identified as an authorized substitute or superseding part in a military specification or standard; and

(2) The part will not be installed in equipment to be submitted for verification and reliability demonstration tests.

b. Substitution of a non-repairable part shall require a Class II engineering change when:

(1) The part substituted is determined, by the contractor having configuration documentation custody over the item, to be a preferred part over the original; or

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   (2) The contractor does not have configuration
        documentation custody.

  c.   Part substitutions which do not meet the requirements of
       5.4.5a or 5.4.5b and for which a permanent change is not
       desired shall require submission of a Request for
       Deviation (RFD) or Request for Waiver (RFW).

  d.   All other parts substitutions shall be subject to the
       Class I or Class II engineering change as applicable.

   5.4.6 <u>Requirements for Specification Change Notices (SCNs)</u>.
In accordance with the requirements of the contract, the contractor
shall, concurrent with the preparation of an ECP,
\# prepare a separate proposed "Specification Change Notice", in
accordance with Appendix F, for each specification which would
require revision if the ECP were approved. The SCN(s) shall be
submitted to the Government with the ECP for approval and
authorization, or disapproval. In the situation discussed in
paragraph 5.4.2.3.6.3 (Related engineering changes - separate
primes), the originating contractor shall prepare and coordinate
the SCN(s) with other prime contractors along with the ECP. Errors
of a minor nature (such as typographical errors, punctuation, etc.)
shall not be corrected, except as an incidental part of the next
technically required ECP and
\# accompanying proposed SCN affecting that CI specification.
(See 4.3.2
\# and 6.3)

\#   5.4.6.1 <u>SCN cover page</u>. The information required by
\# Appendix F shall precede the specification change pages. SCNs for
a specification are sequentially numbered beginning with
SCN 1; SCNs for a newly revised specification are also
\# sequentially numbered starting again with SCN 1. The SCN number
\# shall be placed on the cover sheet of the SCN submittal package.
The proposed SCN, or any revisions thereto, and the approved SCN
shall carry the same number. Once an SCN has been submitted to the
Government along with an ECP, its SCN sequence number related to
that revision of the specification shall not thereafter be changed
or assigned to another ECP/SCN package. (SCN numbers associated
with disapproved ECPs are not reused.) However, due to differing
change processing/approval time periods, SCNs may be approved by
the
\# Government out of sequence. If this occurs, the SCN shall be
changed to reflect the other SCNs approved since it was proposed;
likewise, some of the attached change pages might have to be
revised to reflect the current wording as of the approval date.

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5.4.6.2 <u>Attachments to proposed SCN</u>. The attachments to the proposed SCN shall be:

a. Pages containing detailed information about the exact proposed changes to the specification by reference to the paragraph, page, Figure, or Table and by citing the words/information to be changed in "From/To" format; or

b. Replacement new specification pages in format suitable to be substituted for existing pages, identified with the specification number and SCN approval date, numbered with the same numbers of the pages they replace plus a suffix letter where additional pages are needed to replace a page (e.g., new Pages 5 and 5a replace old Page 5), and all portions affected indicated by symbols (e.g., change bars, asterisks etc.) in the margin; or

c. A proposed specification revision, where more practical, identified with the same number as the specification to be superseded with a new revision letter, prepared to the same format, and all portions affected identified with symbols in the margin or containing a note explaining that the changes are too extensive to be identified.

5.4.6.3 <u>Supersession</u>. When a proposed SCN must be revised and resubmitted, the resubmitted SCN shall retain the same basic SCN number but must be reidentified as a superseding revision (starting with R1 for each SCN) to avoid confusion with any previous submittals of the SCN.

5.4.6.4 <u>Approved SCN</u>. The contractor will receive approved SCNs from the Government concurrent with contractual authorization, and shall use the approved SCNs as authorization to update the specifications in accordance with the approved SCNs. An approved SCN also provides a summary listing of pages affected by all previously approved changes to that particular revision of the specification. SCNs are not cumulative insofar as transmittal of change pages from previous change is concerned, and changes distributed with previous SCNs remain in effect unless changed or canceled by an SCN of later issue. However, the summary of current changes shall be a cumulative summary as of the date of approval of the latest SCN.

5.4.6.5 <u>Changed pages</u>. Updated and reissued pages shall be complete reprints of pages suitable for incorporation by removal of old pages and insertion of new pages. All portions affected by the change shall be indicated by a symbol in the margin

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adjacent to the change and encompassing all changed portions. When
changed pages are issued for specifications with pages printed on
both sides of a sheet, and only the page on one side of a sheet is
affected by the change, both sides of the sheet shall be reissued.
The unchanged side shall be reprinted without change and shall not
carry the date of the change or be included in the change summary
as being affected by the change.

     5.4.7 <u>Requirements for Notices of Revision (NORs)</u>. The#
"Notice of Revision", (See Appendix G) shall be utilized to
describe the exact change(s) to be made to each drawing, associated
list, or
\#   other affected document when specified as a data requirement in the
\#   contract. NOR's shall be prepared in contractor format containing
the
\#   information required in Appendix G in Block Number sequence. (NORs
\#   are normally applicable where documents affected by the ECP are not
\#   controlled by the ECP preparing activity.) (See 4.3.2 and 6.3)

     5.4.8 <u>Configuration control (short form procedure)</u>.

     5.4.8.1 <u>Purpose</u>. The purpose of the short form procedure is
for use with items for which the prescribed detail design was not
developed by the contractor and for which the contractor can not be
expected to know the total impact of a proposed change. The
Government will normally be responsible for determination of
possible effects of engineering changes on higher level or
associated items and similarly for impact of deviations and
waivers. It may also be applied to privately developed items
(e.g., commercial off-the-shelf items), when the contracting
activity has determined that the application of change control to
such items is necessary. The short form procedure will only be
applicable when specifically required by the contract.

     5.4.8.2 <u>Requirements for ECPs</u>. When a permanent change is
desired, to the configuration documentation prescribed by the
contract, an ECP is required. Contractual authorization shall be
required prior to implementation of an ECP which affects contract
cost, fee, schedule or technical requirements specified either in
the contract or in the configuration documentation prescribed
directly by its identifying number in the contract.

\#   5.4.8.2.1 <u>ECP format</u>. Contractor format is acceptable for
\#   short form engineering change proposals. The short form
\#   engineering change proposal shall contain the information
\#   required by Appendix D in Block Number sequence.
\#   (See 4.3.2 and 6.3)

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5.4.8.2.2 <u>Expediting ECPs</u>. An ECP which, in the contractor's judgement, requires immediate action, may be initiated by telephone, message, personal contact, or electronic transmittal to be followed by the contractor's written statement within three (3) work days. If the initial reaction by the addressee of the communication is favorable, a written ECP in accordance with this standard shall be submitted as soon as practicable, but not later than 30 calendar days after the first communication.

5.4.8.2.3 <u>Revisions</u>. An ECP shall be revised when major alterations or changes to the initial ECP are necessary in accordance with 5.4.2.2.3.2 of this standard.

5.4.8.2.4 <u>ECP coverage</u>. Unrelated engineering changes shall not be covered by the same ECP; rather, a separate ECP shall be prepared for each engineering change.

5.4.8.2.5 <u>ECP supporting data</u>. ECPs shall be supported by marked copies of drawings, other technical documentation or parts thereof and the information, as required to justify and describe the change. ECPs originated by subcontractors may be included as supporting data.

5.4.8.2.6 <u>ECP approval</u>. Approval of an ECP will be achieved by:

\#

    a.   The signature on the ECP of the contracting activity or a review activity specifically identified in the contract and by the return of an approved copy to the contractor; or

    b.   Modification when the ECP affects the contract.

5.4.8.2.7 <u>Disapproval</u>. When an ECP is disapproved, the Government will notify the contractor of such disapproval in writing within 30 calendar days of the disapproval date giving the reason(s) for disapproval.

5.4.8.3 <u>Requirements for deviations</u>. Prior to manufacture of an item, if a contractor considers it necessary to temporarily depart from the mandatory requirements of the specification or drawings, the contractor may request that a deviation be authorized. As an example, a deviation relating to an alternative material, process, functional, or dimensional requirement may be requested. Items shall not be delivered incorporating a known departure from documentation unless a request for deviation has been approved in accordance with the requirements of this standard, or unless otherwise contractually

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authorized. For parts substitutions which do not require requests
for deviations see 5.4.5. Authorized deviations are a temporary
departure from requirements and do not constitute a change to the
ACD, FCD, or PCD. Where it is determined that a change should be
permanent, an ECP must be processed in accordance with 5.4.2.

5.4.8.3.1 <u>Restrictions on deviations</u>.   Unless unusual
circumstances exist, requests for deviations affecting safety shall
not be submitted. Requests for deviations which would affect
service operation or maintenance should not be submitted or
authorized as deviations. Such changes that will affect
specifications, drawings or technical manuals shall be proposed
and processed as ECPs.

5.4.8.3.2 <u>Recurring deviations</u>. Submittal of recurring
deviations is discouraged and shall be minimized. If a proposed
deviation is recurring (a repetition or extension of a previously
approved deviation), it is probable that either the requirements of
the documentation are too stringent or the corrective action of the
manufacturer was ineffective. If it is necessary for a contractor
to request a deviation for the same situation with the same item
more than two times, then the need for an engineering change,
rather than a deviation, shall be addressed between the Government
and the contractor.

\# 5.4.8.3.3 <u>Deviation format</u>. Contractor format for the
\# short form Request for Deviation (RFD) is acceptable. The short
\# form RFD shall contain all information required by Appendix E
\# presented in Block Number Sequence. (See 4.3.2 and 6.3)

\# 5.4.8.3.4 <u>Classification of deviations</u>. RFDs will be
\# classified as critical, major, or minor, in accordance with the
\# criteria of 5.4.3.3, by the Government's representative
\# identified in the contract.

\# 5.4.8.3.5 <u>Disposition of deviations</u>. RFDs will be
\# dispositioned by the Government. [Contracts will include the RFD
\# submittal instructions, classification authority, approval
\# authority, and turn-around-time for notification of
\# approval/disapproval. When there are differing disposition
\# requirements for critical, major, and minor RFDs, the contract
\# will so specify.]

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5.4.8.4 <u>Requirements for waivers</u>. Supplies or services which do not conform in all respects to the contract requirements normally are rejected. An item which through error during manufacture does not conform to the specified configuration documentation shall not be delivered to the Government unless a waiver has been processed and granted in accordance with this standard.

5.4.8.4.1 <u>Restrictions on waivers</u>. Unless unusual circumstances exist, requests for waivers affecting safety will not be authorized. ECPs shall be used for such deficiencies.

5.4.8.4.2 <u>Recurring waivers</u>. Submittal of recurring waivers is discouraged and shall be minimized. If a proposed waiver is recurring (a repetition or extension of a previously approved waiver), it is probable that either the requirements of the documentation are too stringent or the corrective action of the manufacturer was ineffective. If it is necessary for a contractor to request a waiver for the same situation with the same item more than two times (or for the remainder of the contracted quantity of deliverable units), then the need for an engineering change, rather than a waiver, shall be addressed between the Government and the contractor.

\# 5.4.8.4.3 <u>Waiver format</u>. Contractor format for the short
\# form Request for Waiver (RFW) is acceptable. The short form RFW
\# shall contain all information required by Appendix E presented in
\# Block Number sequence. (See 4.3.2 and 6.3)

\# 5.4.8.4.4 <u>Classification of waivers</u>. RFWs will be
\# classified as critical, major, or minor, in accordance with the
\# criteria of 5.4.4.3, by the Government's representative
\# identified in the contract.

\# 5.4.8.4.5 <u>Disposition of waivers</u>. RFWs will be
\# dispositioned by the Government. [Contracts will include the RFW
\# submittal instructions, classification authority, approval
\# authority, and turn-around-time for notification of
\# approval/disapproval. When there are differing disposition
\# requirements for critical, major, and minor RFWs, the contract
\# will so specify.]

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\#
\#

5.5 Configuration Status Accounting (CSA).

5.5.1 Purpose of CSA. The purpose of CSA is to assure
accurate identification of each CI and delivered unit so that the
necessary logistics support elements can be correctly programmed
and made available in time to support the CI. An adequate and
accurate CSA will enhance program and functional manager's
capabilities to identify, produce, inspect, deliver, operate,
maintain, repair, refurbish, etc., CIs in a timely, efficient, and
economical manner in satisfying their assigned responsibilities.

5.5.2 CSA requirements. The contractor's information system
shall be capable of meeting contractual requirements for CSA.
Appendix H, as tailored in the contract, establishes requirements
for CSA of the documentation and identification numbers which
describe CIs, the processing and implementation of changes to CIs
and their associated documentation, and the actual configuration of
units of CIs. (See 6.3)

5.5.3 Preferred information system. The contractor shall
provide CSA information from the contractor's information system to
the maximum extent possible. Where information beyond the existing
contractor system is required by the Government to be included in
the data base or in the formatted output, such additional
information shall be provided as supplements to the existing system
without disrupting the existing system or requiring the generation
of a completely new system for the Government.

5.5.4 Retention of historical data base. The contractor
shall retain a complete historical record of all the information
required by the Government to be stored in the system. Such
historical information shall be formatted and maintained in such a
manner that it can readily be copied, in total or by specific
elements identified by the Government, for transfer in a format
specified in the contract.

5.5.5 CSA data elements. The contractor shall utilize the
data elements identified and defined in Appendix I as a guide in
the preparation of all applicable CSA records and reports.
(See 6.3)

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5.5.6 <u>Contractor focal point</u>. The contractor shall identify a focal point for the CSA system to interface with the data base users.

5.5.7 <u>CSA analysis requirements</u>. The contractor shall review and analyze CSA data. When potential or actual problems/ delinquencies which impact the Government are detected, the contractor shall contact the Government within one business day to establish a course of action to rectify the situation. In addition:

a. Analysis shall be performed to detect trends in the problems reported.

b. Corrective actions shall be evaluated to: (1) verify that problems have been resolved, adverse trends have been reversed, and changes have been correctly implemented in the appropriate processes and products, and (2) to determine whether additional problems have been introduced.

5.5.8 <u>Reporting accomplishment of retrofit changes</u>. When units already accepted by the Government are returned to the contractor, either for prolonged use or for specific retrofit action, the contractor shall document the incorporation of all retrofit changes to those units in his custody and shall report the status of those units. Appendix J delineates the detailed procedures for reporting accomplishment of retrofit changes by the contractor. These procedures shall be used to report accomplishment, in accordance with retrofit instructions, at the contractor's home plant, at other contractor-operated activities, and at Government operated activities, as directed by the Government. (See 6.3)

5.6 <u>Configuration audits</u>. FCA and PCAs will normally be conducted by the Government prior to acceptance of a CI and prior to establishing the PBL.

5.6.1 <u>Contractor participation and responsibilities</u>. The contractor shall be responsible for supporting Government conducted configuration audits in accordance with the following requirements except as amended by the contract.

5.6.1.1 <u>Subcontractors and suppliers</u>. The contractor shall be responsible for insuring that subcontractors, vendors, and suppliers participate in Government configuration audits, as appropriate.

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5.6.1.2 <u>Location</u>. Unless otherwise specified in the Statement of Work (SOW), the configuration audits shall be conducted at the contractor's facility or at a designated subcontractor facility, if approved by the Government. Accordingly, the contractor shall be required to provide the necessary resources and material to perform the audit effectively. This includes the following items to the extent appropriate for the type and scope of audit required by the contract:

a.   Configuration audit plan. (See 6.3)

b.   Conference agenda. (See 6.3)

c.   Conference room(s).

d.   Applicable specifications, drawings, manuals, schedules, and design and test data.

e.   Test results.

f.   Meeting minutes including resulting audit action items. (See 6.3)

g.   Tools and inspection equipment (including coordinate measuring machines with operators) necessary for evaluation and verification.

h.   Unencumbered access to the areas and facilities of incoming inspection, fabrication, production, and testing.

i.   Personnel from each engineering, manufacturing and quality department to be available for discussion in their respective areas.

j.   Copies of inspection reports, process sheets, data sheets, and other documentation as deemed necessary by Government FCA/PCA teams.

k.   Isolation of the item(s) and detailed parts to be reviewed.

5.6.1.3 <u>Contractor requirements</u>. The contractor shall be responsible for establishing the time, place, and agenda for each configuration audit in consonance with the master milestone schedule, subject to coordination with the Government. This

should be accomplished sufficiently in advance of each audit to allow adequate preparation for the meeting by both the contractor and the Government. In addition, the contractor shall:

a. Insure that each configuration audit schedule is compatible with the availability of the necessary information and contract articles, e.g., system engineering data, trade study results, producibility analysis results, risk analysis results, specifications, manuals, drawings, reports, hardware, software, or mockups.

b. Designate a co-chairperson for each configuration audit. Participating contractor and subcontractor personnel or those chosen to make presentations shall be prepared to discuss in technical detail any of the presented material within the scope of the audit.

c. Provide an acceptable method to record inputs to official meeting minutes. Minutes shall be recorded and shall consist of significant questions and answers, action items, deviations, conclusions, recommended courses of action resulting from presentations or discussions. Conclusions from discussions conducted during side meetings shall be summarized in the main meeting at an appointed time, and appropriate comments shall be read into the official minutes. Recommendations not accepted should also be recorded together with the reason for non-acceptance. The minutes of each daily session shall be available for review by both the contractor and Government personnel at the beginning of the next day's session. The minutes of the overall audit shall be available for review by the Government prior to the departure of the audit team from the audit location. Official acknowledgement by the Government of the accomplishment of the audit shall not be interpreted as approval of statements made in the minutes or of matters discussed at the audit and does not relieve the contractor from requirements which are part of the contract.

d. Record all discrepancies identified by the audit team (See Figure 3a - 3b for a sample Audit Action Item List) and process each one, as a part of the audit activities, until it is closed out or suitable residual tasks, including identification of responsible activities and suspenses, have been established which

will lead to the close out of the discrepancy/action item. Clearly record all action items in the minutes and identify both the Government and/or contractor action required for each action item's resolution.

e. Publish the official minutes.

5.6.1.4 <u>Government participation</u>. The Government will:

a. Provide a co-chairperson.

b. Provide to the contractor prior to the audit the name, organization, and security clearance of each participating individual.

c. Review the daily minutes and ensure that they reflect all significant Government inputs.

d. Provide formal acknowledgement to the contractor of the accomplishment and results of each configuration audit after receipt of configuration audit minutes. The Government will evaluate the results of each configuration audit in accordance with the following identifiers:

   (1) Approval -- to indicate that the audit was satisfactorily completed.

   (2) Contingent approval -- to indicate that the audit is not considered accomplished until the satisfactory completion of resultant action items.

   (3) Disapproval -- to indicate that the audit was seriously inadequate.

5.6.2 <u>Functional Configuration Audit (FCA)</u>. A Functional Configuration Audit shall be conducted for each configuration item for which a separate development or requirements specification has been baselined, except as otherwise required by the contract, and for the overall system, if required by the contract. The objective of the FCA shall be to verify the configuration item's and system's performance against its approved configuration documentation. Test data for the FCA shall be that collected from the test of the configuration of the item that is to be formally accepted or released for production (prototype or preproduction article). If a prototype or preproduction article is not produced, the test data shall be

Figure 3a. Sample Audit Action Item List

Figure 3b. Sample Audit Action Item List - Continued

that collected from test of the first production article. Subject
to prior Government approval, the FCA for complex items may be
conducted in increments. In such cases, a final FCA may be
conducted to ensure that all requirements of the FCA have been
satisfied. In cases where item verification can only be completely
determined after system integration and testing, the (final) FCA
shall be conducted using the results of these tests.

    5.6.2.1 <u>Contract requirements</u>. The schedule dates, and
actual accomplishment dates for the FCAs shall be recorded in the
CSA information system. The CI, or system, shall not be audited
separately without prior Government approval of the FBL and ABL for
the CI, or system, involved. In addition, the contractor shall
make the final draft copy of the CI product specification available
to the Government for review prior to the FCA, as specified in the
contract.

    5.6.2.2 <u>Contractor responsibility</u>.

a.   Prior to the audit date, the contractor shall provide the
following information to the Government:

    (1) Contractor representation.

    (2) Identification of items to be audited:

        (a) Nomenclature.

        (b) Specification identification number.

        (c) CI identification.

    (3) Current listing of all deviations/waivers against
the CI, either requested of or approved by the
Government.

    (4) Status of test programs to test configuration items
with automatic test equipment (when applicable).

b.   The contractor shall provide a matrix for each CI at the
FCA that identifies the requirements of sections three
and four of the specifications; includes a cross
reference to the test plan, test procedures, and test
report, results of demonstrations, inspections, and
analyses for each requirement; and identifies each
deficiency by deficiency report number. The matrix shall
be made a part of the FCA minutes.

c.   The contractor shall prepare an FCA check sheet which
     identifies documents to be audited and tasks to be
     accomplished at the FCA for the CI. A sample FCA
     Checklist is shown in Figure 4.

5.6.2.3 <u>Verification procedures and requirements</u>. The
contractor shall provide the FCA team with a briefing for each CI
being audited and shall delineate the test results and findings for
each CI. As a minimum, the discussion shall include CI
requirements that were not met, including a proposed solution to
each item, an account of the ECPs incorporated and tested as well
as proposed, and a general presentation of the entire CI test
effort delineating problem areas as well as accomplishments. The
audit should also include:

a.   The contractor's test procedures and results shall be
     reviewed for compliance with specification requirements.

b.   The following testing information shall be available for
     the FCA team.

     (1) Test plans, specifications, descriptions,
          procedures, and reports for the CI.

     (2) A complete list of successfully accomplished tests
          during which pre-acceptance data was recorded.

     (3) A complete list of successful tests if detailed test
          data are not recorded.

     (4) A complete list of tests required by the test
          requirements but not yet performed. (To be
          performed as a system or subsystem test.)

     (5) Preproduction test results.

c.   An audit of formal test plans, specifications, and
     procedures shall be made and compared against the
     official test data. The results shall be checked for
     completeness and accuracy. Deficiencies shall be
     documented and made a part of the FCA minutes. Interface
     requirements and the testing of these requirements shall
     be reviewed. Completion dates for all discrepancies
     shall be clearly established and documented.

Figure 4. Sample FCA Checklist

d. For those requirements which cannot be completely verified through the use of testing, the FCA shall determine whether adequate analyses or simulations have been accomplished and whether the results of the analyses or simulations are sufficient to insure that the CI meets the requirements in the specification. All ECPs that have been approved shall be reviewed to ensure that they have been technically incorporated and verified.

e. An audit of the test reports shall be performed to validate that the reports are accurate and completely describe the CI tests. Test reports, procedures, and data used by the FCA team shall be made a matter of record in the FCA minutes.

f. A list of the contractor's internal configuration documentation of the HWCI shall be reviewed to insure that the contractor has documented the physical configuration of the HWCI for which the test data are verified.

g. Drawings of the CI parts which are to be provisioned shall be selectively sampled to assure that test data essential to manufacturing are included on, or furnished with, the drawings.

h. CIs which fail to pass quality requirements are to be analyzed as to the cause of failure to pass. Appropriate corrections shall be made before a CI is subjected to a reverification.

i. Acknowledge accomplishment of partial completion of the FCA for those CIs whose verification is contingent upon completion of integrated system testing.

j. For CSCIs the following additional requirements shall apply:

(1) Review data base characteristics, storage allocation data and timing, and sequencing characteristics for compliance with specified requirements.

(2) Review all documents which comprise or describe the contents or the use of the software product for format and completeness. (e.g., SPS, User's Manual, VDD)

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      (3)   Review the records that reflect the changes made to the developmental configuration for the CSCI.

      (4)   Review the listing of all versions of the developmental and non-developmental software for the CSCIs that are in the software library.

      (5)   Review the findings of all internal CM and software QA audits of the CSCI.

    k.   Preliminary and Critical Design Review (CDR) minutes shall be examined to ensure that all findings have been incorporated and completed.

    5.6.2.4 <u>Post-audit actions</u>. After the FCA is completed, the contractor shall:

    a.   Publish copies of the FCA minutes.

    b.   Record the accomplishment and results of the FCA in the CSA Record for each CI audited.

    c.   Accomplish residual tasks for which they were identified as the responsible activity.

    5.6.2.5 <u>FCA Certifications</u>. A sample FCA certification
\#   package is shown in Figures 5a - 5g. When specified in the
\#   contract, a Configuration Audit Summary Report, consisting of the
\#   applicable information of the certification package shall be
\#   required. (See 6.3)

    5.6.3 <u>Physical Configuration Audit (PCA)</u>. The PCA shall be the formal examination of the as-built configuration of a CI against its design documentation. The PCA for a CI shall not be started unless the FCA for the CI has already been accomplished or is being accomplished concurrent with the PCA. After successful completion of the audit and the establishment of a PBL, all subsequent changes are processed by formal engineering change action. The PCA also determines that the acceptance testing requirements prescribed by the documentation is adequate for acceptance of production units of a CI by quality assurance activities. The PCA includes a detailed audit of engineering drawings, specifications, technical data, tests utilized in production of CIs, and design documentation, listings, and operation and support documents for CSCIs. The PCA shall include an audit of the released engineering documentation and quality control records to make sure the as-built or as-coded

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Figure 5a. Sample FCA Certification Package

Figure 5b. Sample FCA Certification Package - Continued

Figure 5c. Sample FCA Certification Package - Continued

Figure 5d. Sample FCA Certification Package - Continued

Figure 5e. Sample FCA Certification Package - Continued

Figure 5f. Sample FCA Certification Package - Continued

Figure 5g. Sample FCA Certification Package - Continued

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configuration is reflected by this documentation. For software, the product specification, Interface Design Document, and VDD shall be a part of the PCA.

    a. The PCA shall be conducted on a unit of the item selected jointly by the Government and the contractor.

    b. Satisfactory completion of a PCA and approval of the product specification are necessary for the Government to establish the PBL for a CI.

    5.6.3.1 <u>Contract requirements</u>. The schedule dates, and actual accomplishment dates, for the PCAs shall be recorded in the CSA information system. All internally-, and Government-, approved engineering changes shall be incorporated into new revisions of the applicable configuration documentation prior to the PCA. In addition, the contractor shall make the final draft copy of the product specification available to the Government for review prior to the PCA, as specified in the contract.

\#   5.6.3.2 <u>Contractor responsibility</u>. Prior to the audit
\# date, the contractor shall provide the following information to the Government:

\#   a. Contractor representation.

    b. Identification of items to be audited by:

        (1) Nomenclature.

        (2) Specification Identification Number.

        (3) CI Identifiers.

        (4) Serial Numbers.

        (5) Drawing and Part Numbers.

\#   (6) CAGE Codes.

    c. A list delineating all deviations/waivers against the CI either requested or Government approved.

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d.   Reference information to the CI being audited as follows:

(1)   CI product specification.

(2)   A list delineating both approved and outstanding changes against the CI.

(3)   Complete shortage list.

(4)   Acceptance test procedures and associated test data.

(5)   Engineering drawing index including revision letters.

(6)   Operating and support manuals; including operators manuals, maintenance manuals, illustrated parts breakdown, programmer's manuals, diagnostic manuals, etc.

(7)   Proposed DD Form 250, "Material Inspection and Receiving Report."

(8)   Approved nomenclature and nameplates.

(9)   VDDs, for software.

(10) FCA minutes for each CI.

(11) Findings/Status of Quality Assurance Programs.

(12) Program parts selection list.

(13) Interface Design Document for software.

e.   Assemble and make available to the PCA team at time of audit all data describing the item configuration, to include:

(1)   Current approved issue of hardware development and software and interface requirements specifications to include approved SCNs and approved deviations/ waivers.

(2)   Identification of all changes actually made during test.

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(3) Identification of all required changes not completed.

(4) All configuration documentation, or electronic representations of the same, required to identify the CI.

\#

(5) Manufacturing instructions, manufacturing instruction sheets or computer-aided manufacturing (CAM) data related to drawings and computer-aided design (CAD) presentations of specified parts identified by the Government.

f. Identify any difference between the physical configurations of the selected production unit and the development unit(s) used for the FCA and shall certify or demonstrate to the Government that these differences do not degrade the functional characteristics of the selected units.

g. A sample PCA Checklist is shown in Figure 6.

5.6.3.3 <u>PCA procedures and requirements</u>. The following actions shall be performed as part of each PCA:

a. A representative number of drawings (and/or CAD presentations) and associated manufacturing instruction sheets (and/or CAM data) for each item of hardware, identified by the Government co-chairperson, shall be reviewed to determine their accuracy and insure that they include the authorized changes reflected in the engineering drawings (and/or CAD presentations) and the hardware. Unless otherwise directed by the Government co-chairperson, inspection of drawings (and/or CAD presentations) and associated manufacturing instructions (and/or CAM data) may be accomplished on a valid sampling basis. The purpose of this review is to insure that the manufacturing instructions (and/or CAM data) accurately reflect all design details contained in the drawings (and/or CAD presentations). Since the hardware is built in accordance with the manufacturing instructions (and/or CAM data), any discrepancies between the manufacturing instructions (and/or CAM data) and the design details and changes in the drawings (and/or CAD presentations) will be reflected in the hardware.

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PCA CHECKLIST

The following hardware, computer software, documentation shall be available, and the following tasks shall be accomplished at the PCA.

Hardware:
Computer Software:
Documentation: YES   NO

(1) Approved final draft of the configuration item product specification.   _____ ____
(2) A list delineating both approved and outstanding
     changes against the configuration item.   _____ ____
(3) Complete shortage list.   _____ ____
(4) Acceptance test procedures and associated test data.   _____ ____
(5) Engineering Drawing Index.   _____ ____
(6) Operating, maintenance, and illustrated parts breakdown manuals.   _____ ____
(7) List of approved material review board actions on waivers.   _____ ____
(8) Proposed DD Form 250, "Material Inspection and Receiving Report."   _____ ____
(9) Approved nomenclature and nameplates.   _____ ____
(10) Manuscript copy of all software CI manuals.   _____ ____
(11) Computer Software Version Description Document.   _____ ____
(12) Current set of listings and updated design descriptions
     or other means of design portrayal for each software CI.   _____ ____
(13) FCA minutes for each configuration item.   _____ ____
(14) Program Parts Selection List (PPSL) (see MIL-STD-965).   _____ ____

Tasks:
(1) Define Product Baseline.   _____ ____
(2) Specification Review and Validation.   _____ ____
(3) Drawing Review.   _____ ____
(4) Review acceptance test procedures and results.   _____ ____
(5) Review shortages and unincorporated design changes.   _____ ____
(6) Review deviations/waivers.   _____ ____
(7) Examine proposed DD 250.   _____ ____
(8) Review performing activity's release and Change Control System.   _____ ____
(9) Review system allocation document.   _____ ____
(10) Review Software User's Manuals, Software Programmer's Manuals,
     Computer System Operator's manual, and Firmware Support Manual.   _____ ____
(11) Review software CIs for the following:
     (a) Preliminary and detail Software Component design descriptions.
     (b) Preliminary and detail Software Interface requirements.
     (c) Data base characteristics, storage allocation charts and timing and sequencing
          characteristics.   _____ ____
(12) Review packaging plan and requirements.   _____ ____
(13) Review status of Rights in Data.   _____ ____
(14) Ensure that all appropriate items installed in the deliverable hardware, that should
     have been processed through the PCP, are identified on the PPSL or that the necessary
     approval documentation is available and that the hardware does not contain items that
     should have been processed through the PCP but were not (see MIL-STD-965).   _____ ____

Figure 6.   Sample PCA Checklist

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        b.   The following minimum information shall be recorded in the
               minutes for each drawing (and/or CAD presentation)
               reviewed:

(1) Drawing number/title (include revision letter).

(2) List of manufacturing instructions and/or CAM data (numbers with change letter/titles) associated with this drawing.

(3) Discrepancies/comments.

(4) A sample of part numbers reflected on the drawing. Check to insure compatibility with the Program Parts Selection List, and examine the CI to insure that the proper parts are actually installed.

c. As a minimum, the following inspections shall be
accomplished for selected drawings (and/or CAD presentations) and associated manufacturing instructions (and/or CAM data):

(1) Drawing number identified on manufacturing instructions (and/or CAM data) shall match the latest released drawing (and/or CAD presentation).

(2) List of materials on manufacturing instructions (and/or CAM data) shall match materials identified on the drawing (and/or CAD presentations).

(3) Nomenclature descriptions, part numbers and serial number markings called out on the drawing (and/or CAD presentation) shall be identified on the manufacturing instructions (and/or CAM data).

(4) Drawings (and/or CAD presentations) and associated manufacturing instructions (and/or CAM data) shall be reviewed to ascertain that all approved changes have been incorporated into the CI.

(5) Release records shall be checked to insure all drawings (and/or CAD presentations) reviewed are identified.

(6) The number of any drawings (and/or CAD presentations) containing more than five outstanding changes attached to the drawing shall be recorded.

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(7) The drawings (and/or CAD presentations) of a major assembly/black box of the HWCI shall be checked for

continuity from top drawing down to piece-part drawing.

    (8)   Insure that approvals by the Government are present where required.

d.   The Program Parts Selection List (PPSL) shall be compared to the HWCI/engineering drawing package to
ensure only approved parts are listed. (See 6.6)

e.   Review of all records of baseline configuration for the CI by direct comparison with the contractor's engineering release system and change control procedures to verify that the configuration being produced accurately reflects released engineering data. This includes interim releases of spares/repair parts provisioned prior to PCA to ensure delivery of currently configured spares/repair parts.

f.   Audit the software library, or similar internal support activity, to assure that it accurately identifies, controls, and tracks changes to the software and documentation. Audit the contractor's engineering release and change control system against the requirements in Appendix B to ascertain that the system is adequate to properly control the processing and formal release of engineering changes. The contractor's system shall meet the information and capabilities requirements of Appendix B as a minimum. The contractor's formats, systems, and procedures will be used.

g.   CI acceptance test data and procedures shall comply with product specifications. The PCA team shall determine any acceptance tests to be reaccomplished, and reserves the right to have representatives of the Government witness all or any portion of the required audits, inspections, or tests.

h.   CIs which fail to pass acceptance testing shall be repaired if necessary and shall be retested by the contractor either in the manner specified by the PCA team leader or in accordance with procedures in the product specification.

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i.   Present data confirming the inspection and test of subcontractor equipment end items at point of manufacture. Inspection and tests shall have been witnessed by a Government representative.

j. The PCA team shall review the prepared back-up data (all initial documentation which accompanies the CI) for correct types and quantities to ensure adequate coverage at the time of shipment to the user.

k. CIs which have demonstrated compliance with the product specification will be approved for acceptance. The PCA team shall certify by signature that the CI has been built in accordance with the drawings and specifications.

l. As a minimum, the following actions shall be performed by the PCA team on each CSCI being audited:

    (1) Review all documents which will comprise the product specification for format and completeness.

    (2) Review FCA minutes for recorded discrepancies and actions taken.

    (3) Review the design descriptions for proper entries, symbols, labels, tags, references, and data descriptions.

    (4) Compare detailed design descriptions with the software listings for accuracy and completeness.

    (5) Examine actual CSCI delivery media (disks, tapes, etc.) to ensure conformance with Section 5 of the software requirements specifications.

    (6) Review the annotated listings for compliance with approved coding standards.

    (7) Review all required operation and support documents for completeness, correctness, incorporation of comments made at Test Readiness Review (TRR), and adequacy to operate and support the CSCI(s). (Formal verification or acceptance of these manuals should be withheld until system testing to ensure that the procedural contents are correct.)

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    (8) Examine the related documentation to ensure that the relationship of the CSCI to the parts, components or assemblies that store the executable forms of the CSCI is properly described. For firmware, ensure that the

information completely describes the requirements for installation of the CSCI into the programmable parts or assemblies and that this information describes the requirements for verification that the installation has been properly implemented. Where follow-on acquisition of the firmware items is intended, ensure that the documentation has been accomplished to the level of detail necessary for the intended reprocurement.

(9) Demonstrate, using deliverable or Government owned support software, that each CSCI can be regenerated. The regenerated CSCI shall be compared to the actual CSCI delivery media to insure they are identical.

5.6.3.4 <u>Post-audit actions</u>.

a. The contractor will be notified in writing by the Government of acceptance or rejection of the PCA, of PCA status and discrepancies to be corrected, or rejection of the PCA and requirements for reaccomplishment.

b. After completion of the PCA, the contractor shall publish and distribute copies of PCA minutes as specified in the contract. The results of the PPSL review will be included in the final PCA minutes.

c. Accomplish residual tasks for which they were identified as the responsible activity.

5.6.3.5 <u>FCA Certifications</u>. A sample FCA certification package
is shown in Figures 5a - 5g. When specified in the contract, a
Configuration Audit Summary Report, consisting of the applicable
information of the certification package shall be required. (See 6.3)

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Figure 7a. Sample PCA Certification Package

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Figure 7b. Sample PCA Certification Package - Continued

Figure 7c. Sample PCA Certification Package - Continued

Figure 7d. Sample PCA Certification Package - Continued

Figure 7e. Sample PCA Certification Package - Continued

Figure 7f. Sample PCA Certification Package - Continued

Figure 7g. Sample PCA Certification Package - Continued

Figure 7h. Sample PCA Certification Package - Continued

Figure 7i. Sample PCA Certification Package - Continued

Figure 7j. Sample PCA Certification Package - Continued

Figure 7k. Sample PCA Certification Package - Continued

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 <u>Intended use</u>.

6.2 <u>Tailoring guidance for contractual application</u>. The requirements of this standard must be tailored for application to programs involving items of various levels of complexity in various phases of their life cycle. Table II is provided to help you decide which requirements from sections 4 and 5 should be invoked in your contract. Table III is provided to help you decide which status accounting tasks, from Appendix H, should be invoked in your contract. These tables list numbered paragraphs and subparagraphs only. Lettered subparagraphs are considered an integral part of the numbered paragraph or subparagraph to which they are attached, and they are invoked with the numbered paragraph or subparagraph automatically, unless specifically stated otherwise in the tasking statement in the Statement of Work. Where the subparagraphs listed in the tables are normally invoked as a unit by citing the lead paragraph, the subparagraphs are listed, but no tailoring guidance is provided for the individual subparagraphs; when certain subparagraphs will need to be tailored out, or when they may be separately tailored into, the contract, separate tailoring guidance is provided for those specific subparagraphs.

6.2.1 <u>Use of Table II</u>. The columns are arranged to identify the normal application in the Demonstration and Validation (D/V), the Engineering and Manufacturing Development (EMD), the Production and Deployment (PRD), and the Operation and Support (OPS) phases of the life cycle. The SMPL (sample wording) column provides a recommendation on which of the sample tasking wording to use (by reference to samples A, B, or C in 6.2.1.2) and, if applicable, to the blank spaces (e.g., [1] or [2]) in the sample. The NOTE column contains a "pointer" to a specific Note (see 6.2.1.3) that will provide further guidance in tailoring the requirement.

6.2.1.1 <u>Explanation of codes</u>. A number of codes are used in Table II to indicate the applicability of a specific requirement to a specific phase of the program. The following codes are used:

a. N/A - This code is used to designate "title-only" paragraphs that would not normally be invoked to incorporate all subparagraphs into the contract.

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Table II Tailoring guide for use with MIL-STD-973

PARA #	PARAGRAPH TITLE	D/V	EMD	PRD	OPS	NOTE	SMPL
4	GENERAL REQUIREMENTS	ALL	ALL	ALL	ALL	a	B(1)
4.1	Basic Requirements	ALL	ALL	ALL	ALL		
4.2	Planning	ALL	ALL	ALL	ALL		
4.3	Computer-aided acq and logistics support (CALS)	ALL	ALL	ALL	ALL		
4.3.1	Data distribution/access	ALL	ALL	ALL	ALL		
4.3.2	Electronic transfer of data	MOST	MOST	MOST	MOST	b	B(3)
4.3.3	Interactive access to digital data	OPT	OPT	OPT	OPT	b	B(3)
4.4	Config identification	ALL	ALL	ALL	ALL		
4.5	Configuration control	ALL	ALL	ALL	ALL		
4.6	Configuration status acctg	ALL	ALL	ALL	ALL		
4.7	Configuration audits	ALL	ALL	OPT	OPT	c	B(3)
5	DETAILED REQUIREMENTS	N/A	N/A	N/A	N/A		
5.1	Purpose	N/A	N/A	N/A	N/A		
5.2	Config mgt administration	N/A	N/A	N/A			
5.2.1	Contractor's CM Plan [Invokes APPENDIX A]	MOST	MOST	OPT		d	C(1) C(2)
5.2.2	Work breakdown structure	MOST	MOST	MOST			C(1)
5.2.3	Technical reviews	ALL	ALL	NO			C(1)
5.3	Config identification	N/A	N/A	N/A	N/A		
5.3.1	Purpose of config identif	ALL	ALL	ALL			C(1)
5.3.2	Configuration item selection	ALL	ALL	OPT			C(1)
5.3.3	Developmental configuration	ALL	ALL	OPT	OPT	e	B(1)
5.3.3.1	Documentation library	ALL	ALL	OPT	OPT		
5.3.3.2	Drawing library	MOST	MOST	OPT	OPT	f	B(3)
5.3.3.3	Software Devel Library (SDL)	MOST	MOST	OPT	OPT	f	B(3)
5.3.4	Configuration Baselines	ALL	ALL	OPT	OPT		C(1)
5.3.4.1	Configuration Baseline/config documentation	ALL	ALL	ALL			B(1)
5.3.4.1.1	Funct Config Documentation	ALL	ALL	OPT		g	B(3)
5.3.4.1.2	Alloc Config Documentation	FEW	ALL	OPT		h	B(3)
5.3.4.1.3	Product Config Documentation	NO	OPT	ALL		i	B(3)
5.3.4.2	Maint of config documentation	MOST	MOST	MOST	OPT	j	B(3)
5.3.5	Egrg release and correlation of Manufactured products [Invokes APPENDIX B]	FEW	ALL	ALL	ALL		C(1) C(2)
5.3.5.1	Specification release/appvl	ALL	ALL	ALL			C(1)
5.3.5.2	Reqts for Engrg Rel Records	FEW	OPT	OPT	OPT	k	A(1)
5.3.5.2.1	Use of Engrg Rel Records [Invokes APPENDIX C]	FEW	OPT	OPT	OPT		A(2)
5.3.5.2.2	Establish config baselines	FEW	OPT	OPT	OPT		
5.3.5.2.3	Changes	FEW	OPT	OPT	OPT		
5.3.5.2.4	Consolidation of multiple chgs into a single ERR	FEW	OPT	OPT	OPT		

Table II. Tailoring guide for use with MIL-STD-973 - Continued

PARA #	PARAGRAPH TITLE	D/V	EMD	PRD	OPS	NOTE	SMPL
5.3.6	Configuration identifiers	ALL	ALL	ALL		l	B(1)
5.3.6.1	CAGE code	ALL	ALL	ALL			
5.3.6.2	Govt type desig/nomenclature	ALL	ALL	ALL			
5.3.6.3	Document numbers	ALL	ALL	ALL			
5.3.6.4	Part/item identif numbers	MOST	MOST	MOST		f	B(3)
5.3.6.5	Software identifiers	MOST	MOST	MOST		f	B(3)
5.3.6.6	Serial/lot numbers	FEW	ALL	ALL	ALL	m	
5.3.6.6.1	Government serial numbers	FEW	OPT	OPT	OPT	n	B(3)
5.3.6.6.2	Reuse of serial numbers	FEW	ALL	ALL	ALL	m	
5.3.6.7	Product identif/marking	FEW	MOST	MOST		o,f	B(3)
5.3.6.7.1	Software marking/labeling	NO	MOST	MOST		f	B(3)
5.3.6.7.2	Firmware labeling	NO	MOST	MOST		f	B(3)
5.3.6.7.3	NDI,COSTS, and PDI labeling	NO	OPT	OPT	OPT	l	B(3)
5.3.7	Interface management	N/A	N/A	N/A			
5.3.7.1	Interface requirements	ALL	ALL	OPT		p	C(1)
5.3.7.2	Rqts for an ICWG	FEW	OPT	OPT		q	B(1)
5.3.7.2.1	ICWG membership	FEW	OPT	OPT		q	
5.3.7.2.2	ICWG chairmanship	SLCT	SLCT	SLCT		q	B(3)
5.4	Configuration control	N/A	N/A	N/A	N/A		
5.4.1	Purpose of config control	ALL	ALL	ALL	ALL		C(1)
5.4.2	Reqts for Engineering Changes	ALL	ALL	ALL	ALL	z	
5.4.2.1	The engrg change process	ALL	ALL	ALL	ALL		C(1)
5.4.2.2	Administrative requirements	ALL	ALL	ALL	ALL		B(1)
5.4.2.2.1	Classification of engrg chgs	ALL	ALL	ALL	ALL		
5.4.2.2.2	Classifying engrg chg to PDI	FEW	OPT	OPT	OPT	r	B(3)
5.4.2.2.3	Content of ECPs	ALL	ALL	ALL	ALL		B(2)
	[Invokes APPX D]						
5.4.2.2.3.1	Unrelated engrg changes	ALL	ALL	ALL	ALL		
5.4.2.2.3.2	Revisions of ECPs	ALL	ALL	ALL	ALL	af	B(3)
5.4.2.2.3.3	Supporting data	ALL	ALL	ALL	ALL		
5.4.2.2.3.4	Classified data	ALL	ALL	ALL	ALL		
5.4.2.3	Class I engrg chg proposals	ALL	ALL	ALL	ALL		B(1)
5.4.2.3.1	Class I ECP decisions	N/A	N/A	N/A	N/A		
5.4.2.3.1.1	Tgt for tech decis-Cls I ECP	ALL	ALL	ALL	ALL		
5.4.2.3.1.2	ECP authorization	ALL	ALL	ALL	ALL		
5.4.2.3.1.3	Cls I compat engrg chgs	ALL	ALL	ALL	ALL		
5.4.2.3.1.4	Disapproval of ECPs	ALL	ALL	ALL	ALL		
5.4.2.3.2	Class I ECP justif codes	ALL	ALL	ALL	ALL		

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Table II. Tailoring guide for use with MIL-STD-973 - Continued

PARA #	PARAGRAPH TITLE	D/V	EMD	PRD	OPS	NOTE	SMPL
5.4.2.3.3	Class I ECP types	ALL	ALL	ALL	ALL		
5.4.2.3.3.1	Preliminary change proposal	ALL	ALL	ALL	ALL		
5.4.2.3.3.1.1	Use of prelim ECPs (Type P)	ALL	ALL	ALL	ALL	s	B(3)
5.4.2.3.3.1.2	Use of ADV Chg Study Notice	OPT	OPT	OPT	OPT	s	B(3)
5.4.2.3.3.2	Use of formal ECP (Type F)	ALL	ALL	ALL	ALL		
5.4.2.3.4	Class I engrg chg priorities	ALL	ALL	ALL	ALL		
5.4.2.3.4.1	Exped Cls I ECPs w/priority of emergency or urgent	ALL	ALL	ALL	ALL		
5.4.2.3.5	Format for Cls I engrg chgs	ALL	ALL	ALL	ALL		
5.4.2.3.5.1	Class I engrg changes-functional	ALL	NO	NO	NO		B(3)
5.4.2.3.5.2	Class I engrg changes-allocated	NO	ALL	NO	NO		B(3)
5.4.2.3.5.3	Class I engrg changes-prod baseline	NO	NO	NO	NO		B(3)
5.4.2.3.6	Related engineering changes	ALL	ALL	ALL	ALL		
5.4.2.3.6.1	Rel engrg chgs-single prime	NO	ALL	ALL	ALL		B(3)
5.4.2.3.6.2	Rel engrg chgs-single prime- multi procuring activities	OPT	OPT	OPT	OPT	t	B(3)
5.4.2.3.6.3	Rel egrg chgs-separte primes	OPT	OPT	OPT	OPT	t	B(3)
5.4.2.3.6.4	Same egrg chgs-pring/sub coord	OPT	OPT	OPT	OPT	t	B(3)
5.4.2.3.6.5	Same egrg chg-sev contractors	OPT	OPT	OPT	OPT	t	B(3)
5.4.2.4	Class II engineering changes	NO	FEW	ALL	ALL	u	B(30
5.4.2.4.1	Class II engrg chg format	NO	FEW	ALL	ALL		
5.4.2.4.2	Class II justification codes	NO	FEW	ALL	ALL		
5.4.2.4.3	Concurrence in Class II chgs	NO	SLCT	SLCT	SLCT	u	B(3)
5.4.2.4.4	Approval of Class II chgs	NO	SLCT	SLCT	SLCT	u	B(3)
5.4.2.4.5	Non-custody of original dwgs	NO	NO	OPT	OPT	v	B(3)
5.4.3	Requirements for Requests for Deviation (RFDs)	NO	FEW	ALL	ALL	w,z	A(1)
5.4.3.1	Restrictions on deviations						
5.4.3.2	Recurring deviations						
5.4.3.3	Classification of deviations						
5.4.3.3.1	Minor						
5.4.3.3.2	Major						
5.4.3.3.3	Critical						
5.4.3.4	Format [Invokes APPENDIX E]						A(2)
5.4.3.5	Disposition of deviations						
5.4.3.5.1	Minor deviations						
5.4.3.5.2	Critical and major deviations						

Table II. Tailoring guide for use with MIL-STD-973 - Continued

PARA #	PARAGRAPH TITLE	D/V	EMD	PRD	OPS	NOTE	SMPL
5.4.4	Requirements for Requests for Waiver (RFWs)	NO	NO	ALL	ALL	x,z	A(1)
5.4.4.1	Restrictions on waivers						
5.4.4.2	Recurring waivers						
5.4.4.3	Classification of waivers						
5.4.4.3.1	Classification of waivers						
5.4.4.3.2	Minor						
5.4.4.3.2	Major						
5.4.4.3.3	Critical						
5.4.4.4	Format [Invokes APPENDIX E]						A(2)
5.4.4.5	Disposition of waivers						
5.4.4.5.1	Minor waivers						
5.4.4.5.2	Critical and major wavers						
5.4.5	Parts substitution	NO	NO	ALL	ALL	z	C(1)
5.4.6	Rqts for Spec Change Notices (SCNs) [Invokes APPX F]	ALL	ALL	ALL	ALL	z	A(1) A(2)
5.4.6.1	SCN cover page						
5.4.6.2	Attachments to proposed SCN						
5.4.6.3	Supersession						
5.4.6.4	Approved SCN						
5.4.6.5	Changed pages						
5.4.7	Rqts for Notice of Revision (NORs) [Invokes APPX G]						C(1) C(2)
5.4.8	Config ctrl (Short-fm Proced)	NO	NO	OPT	OPT	y,z	A(1)
5.4.8.1	Purpose						
5.4.8.2	Requirements for ECPs	NO	NO	OPT	OPT	z	
5.4.8.2.1	ECP format [Invokes APPENDIX D]						A(@)
5.4.8.2.2	Expediting ECPs						
5.4.8.2.3	Revisions						
5.4.8.2.4	ECP Coverage						
5.4.8.2.5	ECP supporting data						
5.4.8.2.6	ECP approval						
5.4.8.2.7	Disapproval						
5.4.8.3	Requirements for deviations	NO	NO	OPT	OPT	z	
5.4.8.3.1	Restrictions on deviations						
5.4.8.3.2	Recurring deviations						
5.4.8.3.3	Deviation format [Invokes APPENDIX E]						A(2)
5.4.8.3.4	Classification of deviations						
5.4.8.3.5	Disposition of deviations						

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Table II. Tailoring guide for use with MIL-STD-973 - Continued

PARA #	PARAGRAPH TITLE	D/V	EMD	PRD	OPS	NOTE	SMPL
5.4.8.4	Requirements for waivers	NO	NO	OPT	OPT	z	
5.4.8.4.1	Restrictions on waivers						
5.4.8.4.2	Recurring waivers						
5.4.8.4.3	Waiver format						
	[Invokes APPENDIX E]						A(2)
5.4.8.4.4	Classification of waiver						
5.4.8.4.5	Disposition of waiver						
5.5	Config Status Acctg (CSA)	OPT	ALL	ALL	ALL	aa	B(1)
5.5.1	Purpose of CSA	OPT	ALL	ALL	ALL	aa	
5.5.2	CSA requirements	OPT	ALL	ALL	ALL	aa	
	[Invokes APPENDIX H]						B(2)
5.5.3	Preferred information system	OPT	ALL	ALL	ALL		
5.5.4	Retention of histor database	ALL	ALL	ALL	ALL		
5.5.5	CSA data elements	OPT	ALL	ALL	ALL		
	[Invokes APPENDIX I]						B(2)
5.5.6	Contractor focal point	ALL	ALL	ALL	ALL		
5.5.7	CSA analysis requirements	FEW	FEW	OPT	OPT	ab	B(3)
5.5.8	Reporting accomp of retro chgs	NO	NO	OPT	OPT	ac	B(3)
	[Invokes APPENDIX J]						B(2)
5.6	Configuration audits	N/A	N/A	N/A	N/A		
5.6.1	Contractor partic/respons	NO	ALL	ALL	OPT		A(1)
5.6.1.1	Subcontractors and suppliers						
5.6.1.2	Location						
5.6.1.3	Contractor reqts						
5.6.1.4	Government participation						
5.6.2	Functional Conf Audit (FCA)	NO	ALL	NO	NO	ad	A(1)
5.6.2.1	Contract reqts						
5.6.2.2	Contractor responsibility						
5.6.2.3	Verif procedures and rqts						
5.6.2.4	Post-audit actions						
5.6.2.5	FCA Certification Package						
5.6.3	Physical Confg Audit (PCA)	NO	OPT	OPT	OPT	ae	A(1)
5.6.3.1	Contract reqts						
5.6.3.2	Contractor responsibility						
5.6.3.3	PCA procedures and rqts						
5.6.3.4	Post-audit actions						
5.6.3.5	PCA Certification Package						

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b.   ALL - This code indicates that the requirement is almost always invoked for this phase, with the understanding that there may be a few exceptions.

c.   NO - This code indicates that the requirement is almost never invoked for this phase, with the understanding that there may be a few exceptions.

d.   MOST - This code indicates that most programs would invoke this requirement in their contract for this phase.

e.   OPT - This code indicates that this is an optional requirement for this phase. Based on the notes provided, you will have to determine whether to invoke it in your contract.

f.   FEW - This code indicates that this is an optional requirement for this phase but that only a few programs may want to utilize it. (Usually this relates to a requirement that is normally invoked in a later phase of the program.)

g.   SLCT - This code indicates that this requirement is one of a group of "either/or" requirements that must be selected if the lead paragraph is invoked for that phase; normally, only one of the group should be selected.

6.2.1.2 <u>Sample wording for contractual tasking</u>.

6.2.1.2.1 <u>Invoking a complete set of requirements</u>. The requirements of the standard are arranged so that, in large part, they can be invoked by reference to a lead paragraph; all subparagraphs of that lead paragraph are then applied to the contract. If an Appendix other than Appendix H (CSA) is invoked within the paragraph, it is intended that the entire Appendix be invoked, and the task should include that wording.

<u>SAMPLE A:</u> The contractor shall <u> (e.g., process requests for deviation from the current approved configuration documentation)</u> in accordance with MIL-STD-973, paragraph <u>[1] (e.g., 5.4.3)</u> and subparagraphs, [NOTE: if an Appendix is invoked by the paragraph, include] and Appendix <u>[2] (e.g., E)</u>.

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6.2.1.2.2 <u>Tailoring out specific requirements</u>. Some of the requirements of this standard are provided for use in specific circumstances; one (or more) of the subparagraphs will have to be tailored out even though all of the other subparagraphs under the lead paragraph still apply.

SAMPLE B: The contractor shall <u>(e.g., document Class II engineering changes)</u> in accordance with MIL-STD-973, paragraph <u>[1] (e.g., 5.4.2.4)</u> and subparagraphs, [NOTE: if an Appendix is invoked by the paragraph include] and

\# Appendix <u>[2] (e.g., D)</u>, except that subparagraph(s) <u>[3] (e.g., 5.4.2.4.4)</u> and <u>[3]</u> does not apply.

6.2.1.2.3 <u>Identifying specific applicable requirements</u>. Other requirements in this standard are intended to be invoked by themselves as we select specific parts of a general CM tasking for a particular program. If an Appendix other than Appendix H (CSA) is invoked within the paragraph, it is intended that the entire Appendix be invoked, and the task should include that wording.

SAMPLE C: The contractor shall <u>(e.g., manage the interfaces of the items being developed)</u> in accordance with MIL-STD-973, paragraph(s) <u>[1] (e.g., 5.3.7.1)</u> and <u>[1]</u> [NOTE: if an Appendix is invoked by the paragraph, include] and Appendix <u>[2]</u>.

6.2.1.3 <u>Specific tailoring notes</u>. The following specific tailoring information is provided to supplement the guidance provided in Table II. [NOTE: The number in parentheses at the beginning of each note is the number of the primary paragraph(s) to which it applies.]

a. (4) The General Requirements of a standard are normally invoked on all contracts without tailoring. In this standard, the only exceptions are for the electronic transfer of data (4.3.2), for the interactive access to digital data (4.3.3), and for the audits (4.7). You will have to decide whether to tailor them out for your program.

b. (4.3.2 and 4.3.3) While the use of electronic submittal of data will become nearly universal, some programs may not want to use the capabilities; this will be especially true in the next few years while this technology is maturing. The requirement for the capability to interactively access the contractor's data base will be applied only to selected programs where such access to "real-time" data is necessary to

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successfully manage the program. A primary criterion will be the size of the contractor and the availability of a data base in the contractor's organization to provide the needed information. For a small contractor, on a small program, who does not have such a capability, this requirement could vastly increase the contract cost.

c.   (4.7) This paragraph would be invoked on every contract which invokes the detailed FCA (5.6.2) or PCA (5.6.3) tasks of this standard. (See also 6.2.1.3.ad and ae.)

d.   (5.2.1) CM Plans are usually required as a part of the first phase of the program, with updates provided at least with the transition to the next phase of the development. The CM Plan may be used as a guidance document, or it may be invoked (by referencing the number, revision, and date) as a contractually binding requirement, based on the preference of the program.

e.   (5.3.3) The developmental configuration terminology has been expanded to include both developmental hardware and software. During Demonstration/Validation and EMD phases, we want the contractor to internally control the developmental documentation once it has been released and prior to its being baselined by the government. Once into the Production phase, such control is still required for changes the contractor is developing, so this requirement might continue to be invoked.

f.   (5.3.3.2/5.3.3.3; 5.3.6.4/5.3.6.5; 5.3.6.7/5.3.6.7.1/ 5.3.6.7.2) Most contracts will invoke these paragraphs, since they will involve the development and production of both hardware and software. When a contract involves strictly one or the other, only the appropriate paragraph(s) should be invoked. Also, when it is desired that the contractor use Government-issued drawing numbers and/or part numbers, that requirement should be cited.

g.   (5.3.4.1.1) Many major systems will require the identification of the FCD in the Concept Exploration phase and the baselining of the FCD in the Demonstration/Validation phase. On smaller programs which start with EMD phase, this requirement should be

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invoked in that contract; for major systems, the requirement for compliance with the FCD should be continued during the EMD phase. Once production phase is reached, many programs rely only on the PCD for definition of their requirements for the items they are buying. Others (mainly larger systems) continue to invoke the FCD as the overall requirement for the capabilities of all of the items they are buying, especially for correction of deficiencies determinations.

h. (5.3.4.1.2) Most programs which include a Demonstration/Validation phase will include the requirement to generate the draft ACD during that phase; the ABL will be established as a part of the EMD tasking. Once the Production phase is reached, many programs rely only on the PCD for definition of their requirements for the items they are buying. Others continue to invoke the ACD as the overall requirement for the capabilities of the particular item they are buying, especially for correction of deficiencies; if that is the case, MIL-STD-490 (program-unique) specifications for the ACD and PCD should be ordered as "two-part" specifications.

i. (5.3.4.1.3) Most programs will require the identification of the PCD during the EMD phase. Programs including software may require the establishment of the PBL for the software during the EMD phase. Programs which plan to compete the production contract for the item(s) being developed should require the establishment of the PBL as a part of the EMD effort. All other programs will normally establish the PBL as a part of the Production phase effort.

j. (5.3.4.1.4) Most programs will require the contractor to maintain the original copies of the configuration documentation during the Demonstration/Validation and EMD phases. Many programs continue with contractor maintenance of the originals throughout the production phase, too; some transfer control of the originals to the program office. In the Operation and Support phase, the documentation is usually maintained by the managing DOD service.

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k. (5.3.5.2) Once the government has taken control of the
originals of the configuration documentation, it may

\#   require that the activity implementing the ECP update the
\#   originals and release them using a specific form called
\#   an Engineering Release Record (ERR).

l.   (5.3.6, 5.3.6.7.3) Most contracts should invoke this lead
paragraph to incorporate the entire section of requirements
on configuration identifiers. However, the paragraph on
NDI/COTS/PDI numbering should be tailored out unless it is
appropriate.

m.   (5.3.6.6., 5.3.6.6.2) The requirements for the contractor
to plan for (and sometimes start) issuing serial numbers is
usually invoked for the EMD phase. The continuing
requirement for the issue of the serial numbers is usually
invoked in the production contract(s).

n.   (5.3.6.6.1) For some specialized types of equipment, the
Government issues the serial numbers to be affixed to the
deliverable units. If such equipment is a part of your
program, this requirement must be invoked specifically for
the equipment involved. Also, if a follow-on production or
spares buy is awarded to a contractor other than the
original design activity, it may be advantageous to invoke
this requirement if you want the serial numbers for the
delivered units to continue in an unbroken string even
though the CAGE changes.

o.   (5.3.6.7) Product marking is most critical during the
production and support phases to make sure that the
deliverable units are adequately identified. However, this
task will normally be invoked in the EMD phase to require
the contractor to establish the procedures and evaluate the
medium to be used to accomplish this marking.

p.   (5.3.7.1) Once programs reach the Production phase, control
of interfaces below the ACD level is provided through
control of the detail design invoked in the product baseline
and the PCD. If a detail design is not invoked for
production, then this requirement is needed.

q.   (5.3.7.2) The Interface Control Working Group (ICWG) is
required primarily when the Government has awarded several
contracts to different contractors for the development of
different pieces of a system. It may

also be utilized where several different DOD agencies/
services must meet regularly with one or more contractors
developing the system. If an ICWG is needed, then the

contractor's role as either a member or as the chair/member must be identified. If contractor is to be a member, invoke 5.3.7.2 and tailor out 5.3.7.2.2; if contractor is to be the ICWG chair and a member, invoke 5.3.7.2 using Sample A.

r.   (5.4.2.2.2) If privately-developed items (NDI, COTS, PDI) are not involved in the program, this requirement should not be invoked.

s.   (5.4.2.3.3.1.1 and 5.4.2.3.3.1.2) When the program wants to obtain brief preliminary information about routine Class I engineering changes, the contract must specifically cite the use of either the preliminary ECP or the ACSN for this purpose, not both. If the ACSN is invoked, only subparagraph "c" under the preliminary ECP requirement should be invoked to cover its use for Emergency and Urgent ECPs.

\#   t.   (5.4.2.3.6.3 - 5.4.2.3.6.5) These tasks are normally not required during the Demonstration/Validation phase since the allocated baselines would not be established until the end of this phase or the beginning of the EMD phase; thus, there would be no related ECPs. These tasks would only be invoked, along with the requirement for the "related changes for a single prime", when the situation cited exists. You will have to evaluate your acquisition strategy to determine whether they will apply.

u.   (5.4.2.4/5.4.2.4.3/5.4.2.4.4) Since Class II engineering changes apply only to the product baseline, this set of paragraphs is applicable primarily in the production phase and beyond. If product baselines will be established as a part of the EMD phase, then this task would be invoked for use once the PBL(s) is established. The contract must specify that either "concurrence" or "approval" of the Class II changes applies by citing the appropriate subparagraph.

v.   (5.4.2.4.5) If the contractor will not have control of the originals of the "drawings", this requirement should be invoked to define the requirement for Government approval of the Class II changes.

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w.   (5.4.3) This set of paragraphs on Requests for Deviation is most commonly invoked during the production phase, and beyond, on production and spares contracts. Deviations may also be applicable to the EMD phase, however, when it will be necessary to accept early test prototypes that will not

fully comply with the performance requirements of the FCD and/or ACD.

x.   (5.4.4) This set of paragraphs on Requests for Waiver is most commonly invoked during the production phase and beyond in production and spares contracts. Waivers normally do not apply to the EMD phase.

y.   (5.4.7) Notices of revision normally apply when the activity proposing an engineering change does not control the originals of the documentation affected. It is normally used only for changes to drawings (the SCN is now authorized for use whether the ECP originator controls the original or not). The need for NORs occurs almost exclusively in the production phase and beyond; even then it is applicable to only a few contracts outside of the Army, which normally takes control of the document originals at the end of the EMD phase. [In situations where the originals of the specifications affected by an ECP are not controlled by the ECP originator, the Army may require NORs for the specifications in lieu of the SCNs.] When the program requires draft NORs to be submitted with the ECP, the contract task should specify that NORs are required only for those drawings/documents directly affected by the proposed change.

z.   (5.4.8) The Short-form procedure for ECPs, deviations, and waivers is normally invoked as a complete package. The procedure is used almost exclusively when the producing contractor is not the activity that designed the item and cannot be expected to know the complete logistics impact of a change. This happens only in the production phase and beyond. This requirement is used in place of the requirements (see 5.4.2) for a complete
ECP, deviation (see 5.4.3), and waiver (see 5.4.4). Requirements for SCNs (see 5.4.6) and for NORs (see 5.4.7) may also be invoked, when required.

aa. (5.5.2) The status accounting information available in the demonstration/validation phase is limited; most programs would track the needed information internally rather than requiring the contractor to do it. In

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later phases, the contractor would be required to provide increasing amounts of the information for government use. NOTE: By invoking this requirement, Appendix H is also invoked; you MUST tailor that Appendix, using Table III as a

guide, to identify the specific types of information your program will require from the contractor.

ab. (5.5.7) If you want the contractor personnel to accomplish the task of monitoring the information system, and of notifying you when problems arise with the items or changes reflected in the information system, this task should be invoked. Normally, Government personnel accomplish this task.

ac. (5.5.8) Retrofit involves delivered production units, so the tasking only applies to the production (and later) phase. As ECPs are submitted which involve retrofit of parts by contractor personnel, this task should be added to the contract as a part of the ECP. If a new contract is to be awarded solely for the development of a modification to an existing system, and if the new parts will be installed by the contractor, then this requirement should be invoked in that contract so that the CSA and maintenance records for the delivered units can be updated.

ad. (5.6.2) The FCAs for each CI (and for the system, if applicable) are normally required as a part of the EMD contract. They should be accomplished prior to, or concurrent with, the accomplishment of the PCA for the same CI.

ae. (5.6.3) The PCAs for CSCIs are usually required as a part of the EMD phase contract, although they are often delayed until after some, or all, of the integration (into system hardware) testing has been completed. For hardware, however, the EMD phase units are usually "pre-production prototypes", so the PCA task for hardware items is normally invoked in the first production contract when the development contractor has been preselected (usually in the acquisition strategy) to be the production contractor; the PCA can then be accomplished on an actual production unit. If the production program is to be competed, PCAs would be required in the EMD contract (to establish a product baseline for the competition) and in the first production contract (to update the approved product configuration documentation to match the final

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production design). It is possible that PCAs would be invoked in a later production contract, but that is usually necessary only when there has been a "shutdown" of the production line for a significant length of time or when a

new contractor has won the competition for a (share of a) production contract.

af. (5.4.2.2.3.2b) If paragraph 4.3.2 is contractually invoked, an ECP would be submitted as a digital data file, and subsequent revisions to an ECP would be submitted as updated versions of that data file (i.e., each revision would be a resubmittal of the complete data file in accordance with 4.3.2). However, when paragraph

\#   4.3.2 is not contractually invoked, and when submittal of changed pages only is not desired, this paragraph must be specifically tailored out in the contract.

6.2.2 <u>Use of Table III</u>. Most of the Appendices in this standard are intended to be invoked as a complete package. The requirements in Appendix H are the only ones that require tailoring; Table III has been included to provide guidance on the applicability of the various paragraphs and Tasks in Appendix H to a particular phase of a program. The columns are arranged to identify the normal application in the Demonstration/Validation, the Engineering and Manufacturing Development, the Production, and the Operation and Support phases of the life cycle. Paragraph 6.2.2.2 provides some sample wording to be used in invoking these Tasks on a contract while paragraph 6.2.2.3 provides some brief guidance on the application of the various paragraphs and the related Tasks on contracts.

6.2.2.1 <u>Explanation of codes</u>. Tasks designated with a number of the format "X0X" (e.g., 201) are normally considered to be "minimum" information system requirements; Tasks designated with a number of the format "X1X" are normally considered to be "optional" requirements. Table III cites the applicability of both "minimum" and "optional" tasks. A number of words are used in Table III to designate the activity (i.e., buying, contractor, either of these, or the support activity) normally held responsible for the Task information elements during each phase

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Table III. APPLICATION OF CSA TASKS

Table III. APPLICATION OF CSA TASKS

of the program. (NOTE: During Demonstration/Validation phase, the buying activity can usually handle the relatively simple information system; during the Operation phase, the support activity will normally have the total responsibility.) Other words are used to designate the applicability of the particular Task to this phase of the program, as follows:

a. required - these are considered the minimum acceptable capabilities of the information system, whether the information is obtained from the contractor or from a government activity.

b. recommended - these usually relate to information available as a result of some "minimum" Tasks in the early phases of the program and of some"optional" Tasks whose accomplishment provides enhanced management capabilities for many programs.

c. optional - normally, this is used for requirements which are excessive for most programs but which may be required for programs with critical readiness/ availability requirements and/or with very complex logistics support systems.

d. not recommended - normally, this is used for "optional" requirements which are excessive for the phase of the program or which are required only in later phases for programs with critical readiness/availability requirements and/or with very complex logistics support systems.

e. not appropriate - normally, this indicates that the related documents or items do not exist during this phase or are not yet controlled by the buying activity.

6.2.2.2 <u>Sample wording for contractual tasking</u>. Appendix H must be tailored; it cannot be completely invoked (nor should any program want to completely invoke it) in a contract merely by citing the Appendix. Each individual paragraph and/or numbered Task must be specifically cited to constitute a contractual requirement. If a particular requirement appears to be appropriate for the contract for this phase of the program, wording similar to the following sample can be used:

\# <u>SAMPLE D:</u> The contractor shall <u> (e.g., maintain updated</u>
\# <u>information about approved engineering changes)</u> fulfilling
\# the requirements of MIL-STD-973, Appendix H, paragraph
\# <u>(e.g., H.5.1.3.1)</u> and Tasks <u> (e.g., 301)</u> .

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    6.2.2.3 <u>Specific tailoring notes</u>. The following specific tailoring information is provided to supplement the guidance provided

in Table III. [NOTE: The number in parentheses at the beginning of each note is the number of the primary paragraph(s) to which it applies.]

   a.   (H.5.1.1) Descriptive documentation and identification numbers. This paragraph and certain of the Tasks will be invoked on most contracts since the contractor usually has the most complete and timely access to the details of this information. The History Tasks (e.g., 102) should not be invoked without the basic Tasks (e.g., 101).

   b.   (H.5.1.2) Tracking active change processing. This paragraph is usually left out of contracts unless the Government wants to monitor the contractor's preparation of the change as well as the government processing of the change. The program office, or government managing activity, usually has the most complete and timely access to the details of the in-house processing information. The optional Tasks (i.e., 211 - 213) should be not invoked unless the basic Task 201 is invoked.

   c.   (H.5.1.3) Approved changes to CI/CSCI configuration. This paragraph may be invoked or deleted; both the contractor and the government have the ability to gather and control this information. However, the contractor's existing engineering release system will normally contain this information, so it may be easiest to obtain it from that source. This information will provide the capability to determine the expected configuration of each delivered production unit in the inventory.

   d.   (H.5.1.4) Implementation of approved changes. This paragraph and Task 401 will normally be invoked on most contracts since the contractor usually has the most complete and timely access to the details of this information. However, until the completion of the development program and the delivery of operational units and logistics support elements, only a few of the implementation events are applicable, so the buying activity may be able to track this information until the beginning of production. Once into the production phase, certain of the optional Tasks may also be invoked in conjunction with Task 401, but this information can be very expensive to obtain and

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        requires considerable manpower to monitor. These optional Tasks should be used selectively; they would be most useful

in situations where lack of supportability for the
system/item can have significant National Security impacts
to the extent that such detailed information is necessary to
minimize such supportability problems.

e. (H.5.1.5) Configuration of units in the field. This
paragraph and Task 501 are normally invoked only for the
Production phase contract. The government support activity
usually has an existing information system which will
provide the information required for Tasks 502 and 503. If
so, it should be used from the start of the delivery of
production units to simplify the transition from a
contractor to a government information system when
production is complete.

f. (H.5.1.6) Tracking audit action items. This paragraph and
Tasks 601 and 602 would not normally be invoked on
contracts. The government buying activity normally has
sufficient resources to provide adequate tracking
capabilities and retention of historical information.

6.3 <u>Data requirements</u>. The following Data Item Descriptions
(DID's) must be listed, as applicable, on the Contract Data
Requirements List (DD Form 1423) when this standard is applied on a
contract, in order to obtain the data, except where DOD FAR Supplement
27.475-1 exempts the requirement for a DD Form 1423.

Reference Paragraph	DID Number	DID Title
5.2.1	DI-CMAN-80858A	Contractor's CM Plan
5.3.2, 5.3.4	DI-CMAN-81293	Configuration Item Documentation Recommendation
# 5.3.5.2.1	DI-CMAN-80463B	Engineering Release Record
5.3.7.1	DI-CMAN-81248	Interface Control Drawing Documentation
5.3.7.2.2	DI-CMAN-81247A	Interface Control Management Data
# 5.4.2.3.3.1.2	DI-CMAN-81246A	Advance Change Study Notice
# 5.4.2.3.5,	DI-CMAN-80639B	Engineering Change Proposal
# 5.4.2.4.1,		
# 5.4.8.2.1		
# 5.4.3.4,	DI-CMAN-80640B	Request for Deviation
# 5.4.8.3.3		

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Reference Paragraph	DID Number	DID Title
# 5.4.4.4,	DI-CMAN-80641B	Request for Waiver
# 5.4.8.4.3		
# 5.4.6	DI-CMAN-80643B	Specification Change Notice
# 5.4.7	DI-CMAN-80642B	Notice of Revision

5.5.5	DI-CMAN-81253	Configuration Status Accounting Information
5.5.8	DI-CMAN-81245	Installation Completion Notification
5.6.1.2	DI-CMAN-80556A	Configuration Audit Plan
5.6.1.2	DI-ADMN-81249	Conference Agenda
5.6.1.2	DI-ADMN-81250	Conference Minutes
5.6.2.5, 5.6.3.5	DI-CMAN-81022B	Configuration Audit Summary Report

The above DID's are those cleared as of the date of this standard. The current issue of DOD 5010.12-L, Acquisition Management Systems and Data Requirements Control List (AMSDL) must be researched to ensure that only current, cleared DID's are cited on the DD Form 1423.

6.4 <u>Supersession data</u>. The following military standards are cancelled by MIL-STD-973:

MIL-STD-480	Configuration Control - Engineering Changes, Deviations, and Waivers
MIL-STD-481	Configuration Control - Short Form
MIL-STD-482	Configuration Status Accounting Data Elements and Related Features
MIL-STD-483	Configuration Management Practices
MIL-STD-1456	Configuration Management Plan
MIL-STD-1521	Technical Reviews and Audits for Systems, Equipments, and Computer Software (Appendixes G, H, and I only)

A paragraph-by-paragraph cross-reference guide for all the above documents and for DOD-STD-2167 is provided in Appendix K for information.

6.5 <u>Subject term (key word) listing</u>.

Advance change study notice
Baseline
Configuration audit

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Configuration control
Configuration control board
Configuration documentation
Configuration identification
Configuration item
Configuration management plan

Configuration status accounting
Computer software configuration item
Developmental configuration
Deviation/Request for Deviation
Effectivity
Engineering change proposal
Engineering release
Hardware configuration item
Interface control
Interface control working group
Non-developmental item
Notice of Revision
Specification Change Notice
Version
Waiver/Request for Waiver
Work breakdown structure

\#   6.6 <u>Useful references</u>.

\#   a.   CAGE Codes are provided in Defense Logistic Agency
\#   (DLA) Cataloging Handbook H4/H8 Series. (See 3.8)

\#   b.   Requirements associated with distribution statements
\#   for technical data are contained in MIL-STD-1806,
                 "Marking Technical Data Prepared By or For the
\#   Department of Defense." (See 4.3.1)

\#   c.   Requirements associated with Work Breakdown
\#   Structures (WBSs) are provided in MIL-STD-881, "Work
\#   Breakdown Structures for Defense Materiel Items."
\#   WBSs will normally be contractually invoked in
\#   development contracts only. (See 5.2.2)

\#   d.   Specification identifiers and procedures associated
\#   with changes to specifications are contained in MIL
\#   STD-490, "Program-unique Specification Practices,"
\#   and MIL-STD-961, "Military Specifications and
\#   Associated Documents, Preparation of." Similar
\#   material associated with engineering drawings,
\#   associated lists and ancillary documents is
\#   contained in MIL-STD-100, "Engineering Drawing
\#   Practices." (See 5.3.6.3)

\#   e.   Part/item identification numbers are addressed in
\#   MIL-STD-100 and MIL-STD-961. (See 5.3.6.4)

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\#   f.   CIs, including component parts, assemblies, units,
\#   sets and other pieces of military property are often
\#   marked with their identifiers in accordance with
\#   MIL-STD-130, "Identification Marking of US Military
\#   Property;" or with identification plates/nameplates
\#   in accordance with MIL-P-15024, "Plates, Tags and

\#   Bands for Identification of Equipment."
\#   (See 5.3.6.7)

\#   g.   Requirements associated with a system hazard
\#   analysis are contained in MIL-STD-882, "System Safty
\#   Program Requirements." (See 5.4.2.3.2g)

\#   h.   Requirements associated with the DoD Parts Control
\#   Program are contained in MIL-STD-965, "Parts Control
\#   Program." (See5.6.3.3d)

\#   i.   Requirements associated with logistics support
\#   analysis (LSA) tasks are contained in MIL-STD-1388
\#   -1, "Logistic Support Analysis," and requirements
\#   associated with LSA data are contained in MIL-STD
\#   -1388-2, "DoD Requirements for a Logistic Support
\#   Analysis Record." (See D.5.3.3c)

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CONTRACTOR'S CONFIGURATION MANAGEMENT (CM) PLAN

A.1 GENERAL

APPENDIX A

A.1.1 <u>Scope</u>. This Appendix contains the format and content preparation instructions for the Contractor's CM Plan required by paragraph 5.2.1. This Appendix is a mandatory part of this standard. The information contained herein is intended for compliance.

A.1.2 <u>Applicability</u>. The provisions of this Appendix apply whenever the contractor is required to prepare a CM plan.

A.2 APPLICABLE DOCUMENTS

This section is not applicable to this Appendix.

A.3 DEFINITIONS

A.3.1 <u>Definitions used in this Appendix</u>. For the purpose of this Appendix, the definitions contained in Section 3 shall apply.

A.4 GENERAL REQUIREMENTS

A.4.1 <u>Content and format instructions</u>. The plan shall be prepared on bound 8 1/2 x 11 inch 20 pound copier paper (hard copy) or a form of electronic media as specified in the contract. Each page prior to Section 1 shall be numbered in lower-case roman numerals beginning with Page ii for the Table of Contents. Each page from section 1 through the end of the document, shall be numbered consecutively in Arabic numerals. For hard copy format, the document may be printed on one or both sides of each page (single-sided/double-sided). For single-sided documents, all pages shall contain the document control number in the top right-hand corner. For double-sided documents, all even numbered pages shall have the page number on the lower left-hand side of the document and all odd-numbered pages shall have the page number on the lower right-hand side of the document. For double-sided documents, the control number shall be placed in the top right-hand corner for each odd-numbered page, and in the top left-hand corner for each even-numbered page. All paragraph and subparagraph headings listed in paragraph A.4.2 below shall be included in the plan. In the event that a paragraph or

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subparagraph is tailored out, the following statement shall be added directly following the heading: "This section (or paragraph or subparagraph, as applicable) has been tailored out."

A.4.2 <u>Organization of the document</u>. The plan shall consist of the following:

A.4.2.1 Cover Page

A.4.2.2 Record of Reviews and History page

A.4.2.3 Table of Contents

A.4.2.4 Section 1. Introduction

A.4.2.5 Section 2. Reference documents

A.4.2.6 Section 3. Organization

A.4.2.7 Section 4. Configuration management phasing and milestones

A.4.2.8 Section 5. Data management

A.4.2.9 Section 6. Configuration identification

A.4.2.10 Section 7. Interface management

A.4.2.11 Section 8. Configuration control

A.4.2.12 Section 9. Configuration status accounting

A.4.2.13 Section 10. Configuration audits

A.4.2.14 Section 11. Subcontractor/vendor control

A.5 DETAILED REQUIREMENTS

A.5.1 <u>Content and format</u>. The content and format of the plan shall conform to the following paragraphs.

A.5.1.1 <u>Cover Page</u>. This page shall contain the document control number in the upper right-hand corner. In the center of the page, these words shall appear in the following format:

APPENDIX A

CM PLAN

FOR THE

[Project Name or CI nomenclature and number]

CONTRACT NO. [contract number]

CDRL SEQUENCE NO. [CDRL number]

[Date of document - day month year]

Prepared for:
[Contracting Agency Name, Department Code]

Prepared by:
[Contractor name and address]

[CAGE code]

A.5.1.2 <u>Record of Review and History page</u>. This page shall include the review and approval dates of all changes to the plan.

A.5.1.3 <u>Table of Contents</u>. The Table of contents shall list the title and page number of all titled paragraphs and subparagraphs. The Table of contents shall then list the title and page number of all Figures, Tables, and Appendices, in that order.

A.5.1.4 <u>Section 1. Introduction</u>. This section shall include:

a.   The purpose, scope and specific contractual applicability of the configuration management plan and the program phase(s) to which it applies;

b.   A brief description of the system or top level CI, and of the component lower level CIs, using approved CI nomenclature when available, to which the CM Plan pertains;

c.   Reference to applicable directives or glossaries containing definitions of terminology and acronyms used in the plan; and

    d.   A description of the plan's major features and objectives
and a concise summary of the contractor's approach to CM,
including any special conditions (such as large number of
organizations, security constraints, interoperability
constraints, unique contracting methods, non-developmental
items, etc.) upon which the approach is based.

A.5.1.5 <u>Section 2. Reference documents</u>. This section shall
list the specifications, standards, manuals and other documents,
including contractor policy directives, referenced in the Plan by
title, document number, issuing authority, revision, and when
applicable, change notice, amendment number, and date of issue.

A.5.1.6 <u>Section 3. Organization</u>. This section shall describe
and graphically portray the contractor's organization with emphasis on
the CM activities, and which shall include:

    a.   The relationships and integration of the contractor's
project organization and functional organization;

    b.   Responsibility and authority for CM of all participating
groups and organizations including their role in
configuration control boards, and the integration of CM
functions with other program activities such as technical
reviews;

    c.   Identification of the contractor's CM organization and its
responsibilities; and

    d.   Interfaces between the contractor's CM organization and the
Government, subcontractors, and associate contractors.

A.5.1.7 <u>Section 4. Configuration management phasing and
milestones</u>. This section shall describe and graphically portray the
sequence of events and milestones for implementation of CM in phase
with major program milestones and events, including as a minimum:

    a.   Release and submittal of configuration documentation in
relation to program events (e.g., technical reviews);

    b.   Establishment of internal developmental configuration and
contractual baselines;

c.   Implementation of internal and Government configuration control;

d.   Establishment of configuration control boards;

e.   Implementation of a status accounting information system and provision of reports/or access to the status accounting information; and

f.   Conduct of configuration audits.

A.5.1.8 <u>Section 5. Data management</u>. This section shall describe the methods for meeting the configuration management technical data requirements under the computer-aided acquisition and logistic support (CALS) requirements of the contract. (See 4.3)

A.5.1.9 <u>Section 6. Configuration identification</u>. This section shall describe the contractor's procedures for meeting the requirements of 5.3, including:

a.   Selection of CIs (HWCIs and CSCIs) (See 5.3.2);

b.   Establishment and management of developmental configuration including document, drawing and software development libraries and corrective action process (See 5.3.3);

c.   Establishment of the Functional, Allocated and Product baselines, definition of the configuration documentation required for each and graphic illustration of configuration documentation relationships (See 5.3.4);

d.   Engineering release and correlation of manufactured products (See 5.3.5); and

e.   Assignment and application of configuration identifiers including document numbers, nomenclature, serial numbers and part number to hardware; and software identifiers to software and firmware (See 5.3.6 and 5.3.7.5).

A.5.1.10 <u>Section 7. Interface management</u>. This section shall describe the procedures for identification of interface requirements, establishment of interface agreements and participation in interface control working groups (ICWG). (See 5.3.7)

A.5.1.11 <u>Section 8. Configuration control</u>. This section shall describe the contractor's procedures for meeting the requirements of 5.4, including:

    a.   Functions, responsibility, and authority of configuration control boards;

    b.   Classification of changes, and the level of authority for change approval/concurrence (See 5.4.2.2);

    c.   Processing of Class I Engineering Change Proposals (ECPs) and Value Engineering Change Proposals (VECPs) (See 5.4.2.2 and 5.4.2.3);

    d.   Processing of Class II ECPs (See 5.4.2.4);

    e.   Processing of Requests for Deviations and Waivers (See 5.4.3 and 5.4.4);

    f.   Processing of Specification Change Notices (SCNs) (See 5.4.6); and

    g.   Processing of Notices of Revision (NORs) (See 5.4.7).

A.5.1.12 <u>Section 9. Configuration status accounting</u>. This section shall describe the contractor's procedures for meeting the requirements of 5.5 and Appendix H, including:

    a.   The contractors methods for collecting, recording, processing and maintaining data necessary to provide contractual status accounting information via reports and/or data base access;

    b.   Description of reports/information system content related to, as applicable:

        (1)   Identification of current approved configuration documentation and configuration identifiers associated with each CI;

    (2)   Status of proposed engineering changes from initiation
            to implementation;

    (3)   Results of configuration audits; status and disposition
            of discrepancies;

    (4)   Status of requests for critical and major deviations
            and waivers;

    (5)   Traceability of changes from baselined documentation of
            each CI; and

    (6)   Effectivity and installation status of configuration
            changes to all CIs at all locations.

  c.   Methods of access to information in status accounting
       information systems and/or frequency of reporting and
       distribution.

A.5.1.13 <u>Section 10. Configuration audits</u>. This section shall
describe the contractor's approach to meeting the requirements of 5.6,
including:

  a.   Plans, procedures, documentation, and schedules for
       functional and physical configuration audits; and format for
       reporting results of in-process configuration audits.

A.5.1.14 <u>Section 11. Subcontractor/Vendor control</u>. This
section shall describe the methods used by the contractor to ensure
subcontractor/vendor compliance with configuration management
requirements (See 4.1).

ENGINEERING RELEASE RECORDS AND CORRELATION OF
MANUFACTURED PRODUCTS

B.1 GENERAL

B.1.1 <u>Scope</u>. This Appendix establishes the minimum requirements
for achieving the proper relationship between
engineering/manufacturing data and manufactured CIs. The requirements
of this Appendix apply to the contractor's engineering release system
pertaining to:

a.   Elements of data required

b.   Production release functional capabilities and procedures

c.   Release of engineering changes

d.   Field release functional capabilities and procedures.

This Appendix is a mandatory part of the standard. The information
contained herein is intended for compliance.

B.1.2 <u>Application</u>. The requirements of this Appendix apply to
all contracts requiring the preparation of engineering drawings and
specifications for CIs and/or requiring the preparation of software
documentation/code and specifications for CSCIs to the extent
specified in the contract. The contractor shall be responsible to the
Government for compliance by subcontractors, vendors, and suppliers.

B.2 APPLICABLE DOCUMENTS

This section is not applicable to this Appendix.

B.3 DEFINITIONS

B.3.1 <u>Definitions used in this Appendix</u>. For purposes of this
Appendix, the definitions contained in Section 3 of this standard
shall apply.

B.4 GENERAL REQUIREMENTS

B.4.1 <u>Documented procedures</u>. The contractor shall have
documented procedures for the initial release of engineering data
describing the items being purchased by the Government and for

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the subsequent control of that engineering data, including the
incorporation of engineering changes. The contractor shall ensure
that the system is capable of:

    a.   Reconciling engineering work authorizations to changed
contract requirements

    b.   Verifying that engineering documentation has been revised
and released in accordance with changed contract
requirements

    c.   Assuring that engineering changes have been accomplished and
incorporated into deliverable units of the CIs as required
by the released engineering documentation

B.4.2 <u>Engineering release records</u>. The contractor shall prepare
and maintain engineering release records in accordance with contractor
formats and procedures to fulfill at least the minimum requirements
specified herein. Engineering release records shall be used to
satisfy the requirements for traceability of deviations, waivers, and
engineering changes. Only one release record shall be maintained for
each drawing number.

B.5 DETAILED REQUIREMENTS

B.5.1 <u>Data elements</u>.

B.5.1.1 <u>Elements of data required for hardware items</u>. The
contractor's engineering release records for hardware items shall
contain the following information.

B.5.1.1.1 <u>CI elements</u>:

a.   CI identifier

    b.   Delivered CI serial numbers

    c.   Top assembly drawing number

    d.   CI specification identification number.

B.5.1.1.2 <u>Drawing elements</u>:

    a.   Drawing number

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b.   Drawing title

c.   CAGE number

d.   Number of sheets

e.   Date of release

f.   All released change letters

g.   Date of each change letter release

h.   Each effecting change document numbers.

B.5.1.1.3 <u>Part number elements</u>:

a.   Controlling drawing number

b.   Component part numbers released.

B.5.1.2 <u>Elements of data required for software items</u>. The contractor's engineering release records shall reference the CSCI Version Description Document (VDD) which contains all of the required data elements.

B.5.2 <u>Production release functional capabilities</u>. To the extent that the contractor has detail design responsibility, the contractor's release function and documentation, including drawings and associated lists, shall be capable of determining the following released engineering requirements:

a.   The composition of any part at any level in terms of subordinate part numbers

b.   All next higher part numbers (or next assembly numbers) in which the part is used

c.   The composition of any CI in terms of component part numbers and subordinate CI identifiers

d.   The composition of any CSCI in terms of components and units and subordinate CSCI numbers

e.   The item part number and serial numbers, if serialized, on which any subordinate provisioned or to be provisioned part is used

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\#   f.   The CI identifier and CI serial numbers (effectivity) on
             which any subordinate provisioned or to be provisioned part
             is used

       g.   Identification numbers of class I changes which have been
             released for any specific serial-numbered unit of a CI

       h.   Identification numbers of all class II changes which have
             been partially or completely released for any particular
             part, including week of incorporation

\#   i.   The CI identifiers and CI serial numbers, or CSCI version
             numbers, which constitute effectivity of each class I
             engineering change

       j.   The military specification, or military standard, part
             numbers or nomenclature of all standard parts used as a
             component of any nonstandard part

       k.   The subcontractor, vendor, or supplier part numbers for all
             such parts used in the contractor's deliverable units

       l.   The contractor specification document, specification control
             drawing numbers, or source control drawing numbers
             associated with any subcontractor, vendor, or supplier part
             number.

       B.5.3 <u>Release of engineering changes</u>. The contractor's release
function shall verify the approval/concurrence status of each Class
I/Class II change prior to the release of the related documentation
for use in the generation of deliverable units. The release function
documentation shall be capable of identifying engineering changes, and
of retaining the record of superseded configuration requirements,
affecting CIs which have been formally accepted by the Government.

       B.5.3.1 All approved Class I and II engineering changes released
for production shall be identified by identification numbers. The
change shall be documented and released prior to formal acceptance of
the deliverable unit where the engineering change is first installed.

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       B.5.3.2 Documentation of the actual released configuration for
each CI at the time of its formal acceptance shall be retained in

release records for the time specified in the retention of records requirements in the contract.

B.5.4 <u>Release functional capabilities during testing</u>. Prior to establishment of the PBL, detail design documents under the control of the contractor during developmental testing and/or initial operational testing shall be kept current with all test activity changes/modifications and releases as follows:

a.   Superseded requirements may be replaced by superseding requirements in the release records for the units which are being logistically supported by the contractor. Superseded requirements shall be retained as historical information, however, to allow verification of test data and completion of the FCA.

b.   Superseded requirements shall be retained in all release records for the documentation until status accounting records indicate that superseded configurations no longer exist or until closeout of all action items from the FCA, whichever is longer.

c.   Engineering changes to CIs which have been formally accepted by the Government, and which are not being logistically supported by the contractor, shall be released for Government approval and action.

B.5.5 <u>Correlation of engineering changes with manufactured product</u>. Each Class I engineering change approved by the Government shall be verified to have been incorporated into all units, as designated by the ECP.

INSTRUCTIONS FOR THE PREPARATION OF AN ENGINEERING RELEASE
RECORD (ERR)

C.1 GENERAL

C.1.1 <u>Scope</u>. This Appendix establishes uniform
requirements for the preparation of the "Engineering Release
Record". This Appendix is a mandatory part of the standard. The
information contained herein is intended for compliance.

C.1.2 <u>Application</u>. The provisions of this Appendix apply
whenever the ERR is utilized to authorize use of new approved
configuration documentation.

C.2 APPLICABLE DOCUMENTS

This section is not applicable to this Appendix.

C.3 DEFINITIONS

C.3.1 <u>Definitions used in this Appendix</u>. For the purposes of
this Appendix, the definitions contained in Section 3 of this standard
shall apply.

C.4 GENERAL REQUIREMENTS

C.4.1 <u>DD Form 2617 and 2617C</u>. DD Form 2617, Figure 8a, and
DD Form 2617C, Figure 8b, are not a requirement of this standard,
and are provided for reference only. ERRs shall be prepared in
contractor format, containing the information required by this
Appendix in Block Number sequence.

C.4.2 <u>Engineering Release Record</u>. The contractor shall use
an ERR to authorize the use of configuration documentation that
establishes the functional, allocated, and product baselines or
changes an established configuration baseline.

C.5 DETAILED REQUIREMENTS. Detailed instruction for
completion of the ERR.

C.5.1 <u>Block 1. ERR NO</u>. Enter the unique ERR identification
number or the number assigned by the Government.

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C.5.2 <u>Block 2. Date</u>. Entry will not be made in Block 2 until
completion of Block 13 (Approved by) is accomplished by an authorized
official. The date of the completion of Block 13 will then be entered

in Block 2 in six numeric characters; year, month, day, each separated by a hyphen (-), e.g., "91-02-06".

C.5.3 <u>Block 3. Procuring Activity Number</u>. To be used by Government for entry of internal processing number, if desired.

C.5.4 <u>Block 4. DODAAC</u>. Enter the DODAAC of the procuring agency.

C.5.5 <u>Block 5. Baseline Established or Changed</u>. Check appropriate block to identify the configuration baseline established or changed.

C.5.6 <u>Block 6. Type of Release</u>. Check appropriate block to indicate whether release is establishing a baseline (initial) or a change to the established configuration baseline.

C.5.7 <u>Block 7</u>. Enter the ECP number and the date approved on the lines provided, when applicable.

C.5.8 <u>Block 8. Functional Assembly Nomenclature</u>. Enter part number and functional assembly nomenclature of the lowest functional assembly to which the entire ERR applies.

C.5.9 <u>Block 9. System or Configuration Item Nomenclature and Part Number</u>. Enter the system or configuration item nomenclature and part number.

C.5.10 <u>Block 10. Remarks or Miscellaneous</u>. Enter the identification numbers of additional ECPS, when applicable. This block can also be used to note the item which the documentation identifies, e.g., system specification, minor item, configuration item, critical component, partial or complete releases, or any other remarks pertinent to the data being released.

C.5.11 <u>Block 11. Data Released or Revised</u>. Enter each document and sheet as a separate line entry. EXCEPTION: Multi-sheet documents will be entered as a single line entry when all sheets are maintained at the same revision level.

\#   C.5.11.1 <u>Block 11a. CAGE Code</u>. Enter the CAGE Code of the
\#   document listed in Block 11c.

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C.5.11.2 <u>Block 11b. Type</u>. Enter document type code (commonly used acronym as shown in the following examples):

<div align="center"><u>CODE</u>   <u>DOCUMENT TITLE</u> (EXAMPLES)</div>

	Blank	Drawings
	SQ	Quality Assurance Provisions
#	IL	Index List
	EL	List of Inspection Equipment
#	DL	Data List
#	PL	Parts List
	PS	Special Packaging Instructions
	ED	List of Equipment - Depot Installed
	EM	List of Equipment - Manufacturer Installed
	ET	List of Equipment - Troop Installed
	B-5	Development Specification
	C-5	Product Specification
#	CPTPR	Computer Program Test Procedure
	CPTS	Computer Program Test Specification
	DBDD	Data Base Design Document
	FSM	Firmware Support Manual
#	IDS	Interface Design Specification
	IRS	Interface Requirements Specification
	LCUG	Life Cycle Software Support Environment User's Guide
#	PDD	Preliminary Description Document
	PDS	Program Design Specification
	PPD	Program Package Document
#	PPS	Program Performance Specification
	SPS	Software Product Specification
	SRS	Software Requirements Specification
	SS	System Specification
	STD	Software Test Description
#	STPR	Software Test Procedure
#	TEMP	Test and Evaluation Master Plan
	VDD	Version Description Document

C.5.11.3 <u>Block 11c. Number</u>. Enter documents in a logical order by types of documents in ascending numerical and alpha-numerical sequence. Group drawings by size.

C.5.11.4 <u>Block 11d. Page of</u>. Enter the particular page number of the total count of pages in Column 11e. No entry required for single page documents.

C.5.11.5 <u>Block 11e. Pages</u>. The total count of pages comprising the document. No entry required for single page documents.

C.5.11.6 <u>Block 11f. Letter</u>. Enter the new revision symbol to be issued for the document listed in Column 11c. For original documentation, enter a hyphen (-).

C.5.11.7 <u>Block 11g. Date</u>. Enter the document date in six numeric characters, year, month, day, each separated by a hyphen (-), e.g., "91-02-06".

C.5.11.8 <u>Block 11h. Release</u>.

(1) <u>Initial Release (IR)</u>. Enter "X" if the document is being initially released.

(2) <u>New Application Release (NAR)</u>. Enter "X" if the document has a new application.

C.5.11.9 <u>Block 11i. Change</u>.

(1) <u>Change (CH)</u>. Enter "X" for each document listed for which the revision level of an established baseline document is being changed.

(2) <u>Cancellation (CAN)</u>. Enter "X" for each listed document which is to be deleted from an established configuration baseline.

C.5.11.10 <u>Block 11j. Other</u>. For optional use.

C.5.12 <u>Block 12. Submitted by</u>. Enter type, printed, or stamped name and signature of responsible drafting or engineering services contractor organization or engineering segment.

C.5.13 <u>Block 13. Approved by</u>. To be completed by the authorized Government official.

#

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Figure 8a. Engineering Release Record

Figure 8b. Engineering Release Record Continuation Sheet

INSTRUCTIONS FOR THE PREPARATION OF AN ECP

\#

D.1 GENERAL

\#
D.1.1 <u>Scope</u>. This Appendix establishes uniform requirements
for the preparation of an Engineering Change Proposal. This
Appendix is a mandatory part of the standard. The information
contained herein is intended for compliance.

D.1.2 <u>Application</u>.   The provisions of this Appendix apply to
all ECP preparing activities and to proposed engineering changes
for systems, CIs, HWCIs, and CSCIs.

D.2 APPLICABLE DOCUMENTS

This section is not applicable to this Appendix.

D.3 DEFINITIONS

D.3.1 <u>Definitions used in this Appendix</u>. For purposes of
this Appendix, the definitions contained in Section 3 of this
standard shall apply.

D.4 GENERAL REQUIREMENTS

D.4.1 <u>ECP forms</u>. DD Forms 1692 through 1692/6
\# (See Figures 9a - 9g) are not a requirement of this standard, and
\# are provided for reference only. ECPs shall be prepared in
\# contractor format, containing the information required by this
\# appendix in Block Number sequence.

D.4.2 <u>Supporting data</u>. In addition to the information
required by this Appendix, the ECP package shall include supporting
data. (See 5.4.2.2.3.3)

\#
D.4.3 <u>Distribution statement</u>. The appropriate distribution
markings shall be affixed to the ECP package in accordance with the
requirements of the contract. (See 4.3.1)

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D.5 DETAILED REQUIREMENTS. Detailed instruction for
\#   completion of the ECP.

\#   D.5.1 Instructions associated with Figure 9a.

D.5.1.1 Block 1. Date. Enter the submittal date of the ECP
or of the revision to the ECP.

D.5.1.2 Block 2. Procuring activity number. To be used by
Government for entry of internal processing number, if desired.

D.5.1.3 Block 3. DODAAC. Enter the DODAAC of the procuring
activity.

D.5.1.4 Block 4. Originator name and address. Enter the name
and address of the contractor or Government activity, submitting
the ECP. Use Block 4a for the contractor or Government activity
name (inclusion of submitting individual's name is optional). Use
Block 4b for the contractor or Government activity address.

D.5.1.5 Block 5. Class of ECP. Enter I or II for the
applicable ECP as defined in 5.4.2.2.1 or 5.4.2.4. When ECP short
form procedure is specified by the contract, the Government
representative shall assign the change classification.

D.5.1.6 Block 6. Justification code. Enter the justification
code, as defined by 5.4.2.3.2, which is applicable to the proposed
Class I engineering change. When short form procedure is specified
in the contract, the Government representative will assign the
appropriate justification code for other than VECPs.

                    CODES

          B – Interface
          C – Compatibility
          D – Deficiency
          O – Operational or logistics support
          P – Production stoppage
          R – Cost Reduction
          S – Safety
          V – Value engineering

D.5.1.6.1 Value engineering ECP. When the contract contains
a value engineering clause, each value engineering ECP shall be
identified both by the "V" in Block 6 and by the entry of the
following notation at the top of Page 1 of the ECP form: "VALUE
ENGINEERING CHANGE PURSUANT TO CONTRACT CLAUSE."

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D.5.1.7 <u>Block 7. Priority</u>. The contractor shall recommend a priority to the Government and enter an "E", "U", or "R" (Emergency, Urgent or Routine) as defined in 5.4.2.3.4. When short form procedure is specified by contract, the Government representative will assign the priority.

D.5.1.8 <u>Block 8. ECP designation</u>.

D.5.1.8.1 <u>Block 8a. Model/Type</u>. Enter model or type designation of the CI for which this proposal is being filled out. For CSCIs, enter the CSCI identification number.

\#   D.5.1.8.2 <u>Block 8b. CAGE code</u>. Enter the CAGE code for the
\#   activity originating the ECP.

D.5.1.8.3 <u>Block 8c. System designation</u>. The system or top-level CI designation or nomenclature assigned by the Government shall be entered, if known.

D.5.1.8.4 <u>Block 8d. ECP number</u>. Once an ECP number is assigned to the first submission of a change proposal, that number shall be retained for all subsequent submissions of that change proposal. One of the following methods of assigning ECP numbers may be used unless otherwise stated in the contract:

a. ECP numbers shall run consecutively commencing with number 1, for each CAGE Code identified activity, or ECP numbers may be assigned in a separate series for each system that the contractor is producing.

b. When an ECP is split into a basic ECP and related ECPs, the basic ECP shall be identified with the number prescribed above and each related ECP shall be identified by the basic number plus a separate dash number. The number of characters in the ECP number, dash number, type, and revision identification shall not exceed 15.

c. Other systems may be used provided the ECP number is unique for any CAGE Code identified activity, and the 15 character limitation in paragraph (2) above is not exceeded.

D.5.1.8.5 <u>Block 8e. Type</u>. Enter either a "P" for preliminary, or "F" for formal. (See 5.4.2.3.3)

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D.5.1.8.6 <u>Block 8f. Revision</u>. If an ECP is being revised, enter the proper identification of the revision, i.e., R1 for the first revision; R.. for subsequent revisions. (The date submitted shall be the date of the revised ECP.) (See D.5.1.1)

D.5.1.9 <u>Block 9. Baseline affected</u>. Place an "X" in the box(es) according to the baseline(s) affected.

D.5.1.10 <u>Block 10. Other systems/configuration items affected</u>. Enter an "X" in the "yes" or "no" box, as applicable, to indicate whether there is an effect on other systems or CIs which will require the submittal of related Class I ECPs. Supply details in Blocks 28 and 30.

D.5.1.11 <u>Block 11. Specifications affected</u>. If specifications cited in the contract are affected by the ECP, their identity by the CAGE code of the design activity, document number, revision letter, and the SCN (or NOR) number of the SCN (or NOR) being submitted with the ECP, shall be entered.

D.5.1.12 <u>Block 12. Drawings affected</u>. Enter the indicated information for all drawings affected by the ECP. The CAGE code to be entered is that of the design activity whose number is assigned to the listed drawing(s). If more than three drawings are affected, enter the information required in the first line for the top-level drawing affected by the ECP and make direct reference on the second line to the enclosure and paragraph containing the list of all the affected drawings.

D.5.1.13 <u>Block 13. Title of change</u>. Enter a brief title to identify the component or system affected by the ECP. Do not include the purpose or description which are to be entered in Block 16. For example: F-18 Aircraft Air Turbine Start Connector Backshell Replacement; AN/AYK-14(v) CP-1502/CP-1503 Reconfiguration to CP-1799; (CSCI name) Block Update.

D.5.1.14 <u>Block 14. Contract number(s) and line item(s)</u>. Enter the number(s) of all currently active contract(s), and the affected contract line item number(s), at the originating CAGE-coded activity that are affected by the engineering change. If more contracts are affected than can be fit in the block, make reference to the enclosure and paragraph where this information is provided. In the case of a Government-prepared change, the task number under which the ECP will be funded and implemented shall be provided in this block.

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D.5.1.15 <u>Block 15. Procuring contracting officer</u>. Enter the procuring contracting officer's name, code and telephone number applicable to the CI shown in Block 16.

D.5.1.16 <u>Block 16. Configuration item nomenclature</u>. Enter the Government assigned name and type designation, CSCI name and number if applicable, or authorized name and number of the CI(s) affected by the ECP.

D.5.1.17 <u>Block 17. In production</u>. The "yes" box shall be marked if deliveries have not been completed on the contract(s). The "no" box shall be marked if the deliveries have been completed. This block is not always applicable to software. If not applicable, so indicate.

D.5.1.18 <u>Block 18. All lower level items affected</u>.

a. For hardware, an appropriate, complete descriptive name of the part(s) shall be given here without resorting to such terms as "Numerous bits and pieces". The number(s) of the part(s) shall also be entered. Additionally, applicable NSNs shall be entered. An attached list may be used when necessary.

b. For CSCI's, enter the name and identifier of each lower level CI and computer software unit affected.

D.5.1.19 <u>Block 19. Description of change</u>. The description of the proposed change shall include the purpose and shall be given in sufficient detail to adequately describe what is to be accomplished. It shall be phrased in definitive language such that, if it is repeated in the contractual document authorizing the change, it will provide the authorization desired. A description as to which part of the item or system is being changed shall be provided. Supplemental drawings and sketches shall be provided to the extent necessary to clearly portray the proposed change. If the proposed change is an interim solution, it shall be so stated. If additional space is needed, use continuation pages for details but provide an overview in this block. Information should be included as to whether the revision is a resubmittal, replacing the existing ECP in its entirety, or provides change pages to the existing ECP.

D.5.1.20 <u>Block 20. Need for change</u>. Enter an explanation of the need for the change to include specifically identifying the benefit of the change to the Government. The nature of the defect, failure, incident, malfunction, etc. substantiating the

need for the change shall be described in detail. Full utilization shall be made of available failure data. If a new capability is to be provided, improvements in range, speed, performance, endurance, striking power, defensive or offensive capabilities, etc. shall be described in quantitative terms. Correspondence establishing requirements for the change and any testing accomplished prior to the submission shall be identified and summarized. If the ECP is needed to correct maintenance/ logistics problems, that fact will be included with sufficient detail to identify the issues. If the ECP is being submitted as a response to a request for ECP or Government direction, cite that authority herein. Additional pages may be added as required.

    D.5.1.21 <u>Block 21. Production effectivity by serial number</u>.

a.   For hardware, enter the contractor's estimated production effectivity point for the production items including serial number, or other item identification (e.g., block or lot number) as approved by the Government. In determining the effectivity point for the proposed change, the contractor shall consider, in addition to the time factors, the availability of all support elements affected and the most economical point of introduction consistent with all the salient factors involved. The earliest production incorporation is not necessarily the singular or most important factor in the establishment of a proposed change effectivity point. The effectivity point will be based on concurrent availability of all logistics support elements and materials affected by the change to the item.

b.   For CSCI's, identify the CSCI version number into which the change will be incorporated. Where applicable, the effectivity of the end item CI and vehicle (aircraft, tank, ship, etc.) into which the capability represented by the new version of the software is proposed to be incorporated, shall also be provided. If the impact of the ECP merits the release of a new software version, Block 21 of the ECP submittal shall include a recommendation to this effect. Serial numbers may be used in lieu of version numbers if approved by the Government.

D.5.1.22 Block 22. Effect on production delivery schedule.
State the estimated delivery schedule of items incorporating the
change, either in terms of days after contractual approval, or by
specific dates contingent upon contractual approval by a specified
date. If there will be no effect on the delivery schedule, so
state. For a complex ECP, or for related ECPs, this delivery date
will be repeated on the milestone chart together with the schedule
for other interrelated actions.

D.5.1.23 Block 23. Retrofit.

D.5.1.23.1 Block 23a. Recommended item effectivity. When the
contractor recommends that the engineering change be accomplished
in accepted items by retrofit, the quantities and serial (or lot)
numbers of accepted items in which the change will be incorporated
by retrofit shall be entered in Block 23a, or in a referenced
enclosure. Such statement regarding items currently in production
shall be based upon the estimated approval date of the ECP.

D.5.1.23.2 Block 23b. Ship/vehicle class affected. When the
delivered CI is installed in one or more ship/vehicle classes,
enter the identification of such classes. Not applicable when ECP
Short Form procedure is specified by contract.

D.5.1.23.3 Block 23c. Estimated kit delivery schedule. State
estimated kit delivery schedule by quantity and date. When special
tooling for retrofit is required for Government use, reference an
enclosure in Block 23C on which is specified the dates of
availability of tools, jigs, and test equipment required in
conjunction with the kits to accomplish the change.

D.5.1.23.4 Block 23d. Locations or ship/vehicle numbers
affected. State the location(s) at which retrofit is to be
accomplished. If retrofit is to be accomplished in ships (or in
vehicles for which the serial numbers are not shown in Block 23),
enter the ship hull numbers (or vehicle numbers). Not applicable
when ECP Short Form procedure is specified by contract.

D.5.1.23.5 For CSCI changes which are to be incorporated as
part of a hardware ore equipment change, and where implementation
of the CSCI change is per a hardware retrofit schedule, or where
the fieleded version of the softwre is to be replaced,

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the appropraite information will be included in Blocks 23a - 23d
either directly or by reference.

D.5.1.24 Block 24. Estimated costs/savings under contract.
Enter the total estimated costs/savings impact of the ECP on the
contract for the subject CI. This Figure normally will be the same
as that in column 5, line e, of DD Form 1692/3 (Page 4). (Savings
shall be shown in parentheses.)

D.5.1.25 Block 25. Estimated net total costs/savings. Enter
the total estimated costs/savings impact of the basic and all
related ECPs, including other costs/savings to the Government.
This Figure normally will be the same as that in column 6 the
bottom line of Page 4 or, if there are related ECPs, in column 4,
line e, of Page 5. Not applicable when ECP Short Form procedures
are specified by contract.

D.5.1.26 Block 26. Submitting activity authorized signature.
An authorized official of the activity entered in Block 4 shall
sign this block and provide title in Block 26b. This indicates the
ECP has the official sanction of the submitting activity.

D.5.1.27 Block 27. Approval/disapproval. This block is for
use by the Government. [Note: The Contract Administration Office
will review all engineering changes unless otherwise specified in
the contract. It will recommend approval or disapproval of Class I
ECPs by marking Block 27a and completing Block 27d, 27e and 27f.
It will concur or non-concur in the classification of Class II
engineering changes by marking Block 27c accordingly and by
completing Block 27d, 27e and 27f. When the Government requires
approval of Class II engineering changes prior to contractor
implementation, the designated approval activity will mark Block
27b accordingly and will complete Blocks 27d, 27e, and 27f. For
Class I ECPs, the designated Government approval authority will
mark Block 27g accordingly and will complete Block 27h, 27i and
27j.]

D.5.2 Instructions associated with Figure 9b, Effects on
Functional/Allocated Configuration Identification. The information
required for these Blocks is to be completed only if the proposed
change affects the system specification or the item development
specification(s). If a separate product function specification is
used, effects on such specification of changes proposed after the
PBL has been established shall be described as required by Block
Number 37 through 50.

\#   D.5.2.1 <u>ECP number</u>. Enter the same ECP number as in Block 8d of DD Form 1692 (Page 1). If the ECP number is assigned on the basis of the system, the system designation also shall be given.

D.5.2.2 <u>Block 28. Other systems affected</u>. Insert data when Block 7 of DD Form 1692 (Page 1) is checked "yes".

D.5.2.3 <u>Block 29. Other contractors/activities affected</u>. Identify the other contractors or Government activities which will be affected by this engineering change.

D.5.2.4 <u>Block 30. Configuration items affected</u>. Enter the names and numbers of all CIs, maintenance and operator training equipment, and support equipment affected.

D.5.2.5 <u>Block 31. Effects on performance allocations and interfaces in system specification</u>. Describe in this block the changes in performance allocations and in the functional/physical interfaces defined in the system specification.

D.5.2.6 <u>Block 32. Effects on employment, integrated logistic support, training, operational effectiveness, or software</u>.

a.   For hardware, describe the effects of the proposed change on employment, deployment, logistics, and/or personnel and training requirements which have been specified in the approved system and/or CI specifications, including any changes or effects on the operability of the system. In particular, there shall be an entry detailing any effect on interoperability.

b.   For CSCIs, the following information shall be entered as applicable to the degree of design development of the CSCI at the time of ECP submission:

(1)   Identify any required changes to the data base parameters or values, or to data base management procedures;

(2)   Identify and explain any anticipated effects of the proposed change on acceptable computer operating time and cycle-time utilization;

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(3)   Provide an estimate of the net effect on computer software storage; and,

(4)   Identify and explain any other relevant impact of the proposed change on utilization of the system.

D.5.2.7 <u>Block 33. Effects on configuration item specifications</u>. The effect of the proposed change on performance shall be described in quantitative terms as it relates to the parameters contained in the CI development specifications. (See MIL-STD-490)

D.5.2.8 <u>Block 34. Developmental requirements and status</u>.

a.   For hardware, when the proposed engineering change requires a major revision of the development program (e.g., new prototypes, additional design review activity, tests to be reaccomplished), the nature of the new development program shall be described in detail, including the status of programs already begun.

b.   For CSCIs, the contractor shall identify the scheduled sequence of computer software design and test activities which will be required. ECPs initiated after preliminary design which affect the FBL and/or the ABL shall identify, as appropriate, significant requirements for computer software redesign, recoding, repetition of testing, changes to the software engineering/test environments, special installation, adaptation, checkout, and live environment testing. In addition, the specific impact of these factors on approved schedules shall be identified. The impact of the software change on the hardware design and input/ output cabling shall also be detailed.

D.5.2.9 <u>Block 35. Trade-offs and alternative solutions</u>. A summary of the various solutions considered shall be included with an analysis showing the reasons for adopting the solution proposed by the ECP.

D.5.2.10 <u>Block 36. Date by which contractual authority is needed</u>. Enter the date contractual authority will be required in order to maintain the established schedule.

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\#   D.5.3 <u>Instructions associated with Figure 9c, Effects on</u>
<u>product configuration documentation, logistics and operations</u>.
\# Certain information required for these Blocks may already have been
\# required in Blocks 1 trhough 36 or does not apply to computer
software. When this information has already been supplied, a
cross-reference to such information will be adequate.

   a. For hardware, if any specific logistic interoperability
      factors are affected, the contractor shall provide
      information detailing the possible impact on the
      operational configuration on an attached page.

   b. For CSCIs, the software engineering and test environments
      are usually not affected by changes in the product
      configuration of a CSCI. In Block 42, the contractor
      shall provide information about the status of the
      software redesign and retesting effort. There shall also
      be a review of the intent of Blocks 40, 41, 45, 46, 47
      and 49, to document CSCI impacts in these areas.

   D.5.3.1 <u>ECP number</u>. Enter the same ECP number as in Block 8d
of DD Form 1692 (Page 1). If the number is assigned by system,
include the system designation.

   D.5.3.2 <u>Block 37. Effect on product configuration</u>
<u>documentation or contract</u>. The effects on the approved CI product
specifications shall be described by reference to the SCNs, NORs or
other enclosure(s) which cover such proposed text changes in
detail. The effects on performance, weight, moment, etc., which
are covered in the enclosure(s), shall be indexed by proper
identification adjacent to the factor affected. The effects on
drawings, when not completely covered on Page 1, shall be described
in general terms by means of a referenced enclosure. Such
enclosure may consist of a list of enclosed NORs if submittal of an
NOR for each drawing affected is a requirement of the contract.
Indicate any technical data submittal which is not provided for in
the CDRL by means of a referenced enclosure. Address nomenclature
change when applicable.

   D.5.3.3 <u>Block 38. Effect on integrated logistics support</u>
<u>elements</u>. The effects of the engineering change on logistic
support of the item shall be indicated by checking the appropriate
boxes. These effects shall be explained in detail on an enclosure
indexed by appropriate identification adjacent to the subject under
discussion. The information required shall

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indicate the method to be used to determine the integrated logistic
support plans and items which will be required for the support of
the new configuration as well as retrofitting previously delivered
items to the same configuration. The following shall be covered as
applicable:

    a.   Effects on schedule and content of the ILS plan.

    b.   Effect on maintenance concept and plans for the levels of
maintenance and procedures.

    c.   System and/or CI logistics support analysis (LSA) tasks
to be accomplished and LSA data requiring update wherever
it exists in the contract. (See 6.6)

    d.   Extension/revision of the interim support plan.

    e.   Spares and repair parts that are changed, modified,
obsoleted or added, including detailed supply data for
interim support spares.

NOTE: Failure to include detailed supply data will delay ECP
processing.

    f.   Revised or new technical manuals.

    g.   Revised or new facilities requirements and site
activation plan.

    h.   New, revised, obsoleted or additional support equipment
(SE), test procedures and software. For items of SE and
trainers which require change, furnish a cross reference
to the related ECPs, and for any related ECP not
furnished with the basic ECP, furnish a brief description
of the proposed change(s) in SE and trainers.

    i.   Qualitative and quantitative personnel requirements data
which identify additions or deletions to operator or
maintenance manpower in terms of personnel skill levels,
knowledge and numbers required to support the CI as
modified by the change.

    j.   New operator and maintenance training requirements in
terms of training equipment, trainers and training
software for operator and maintenance courses. This

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information should include identification of specific courses, equipment, technical manuals, personnel, etc. required to set up the course at either the contractor or Government facility.

k. See paragraph i above for instructions.

l. See paragraph j above for instructions.

m. Any effect on contract maintenance that increases the scope or dollar limitation established in the contract.

n. Effects on packaging, handling, storage, and transportability resulting from changes in materials, dimensions, fragility, inherent environmental or operating conditions.

D.5.3.4 <u>Block 39. Effect on operational employment</u>. The effects of the engineering change of CI utilization shall be indicated by checking the appropriate factors and providing details by enclosures. Quantitative values shall be used whenever practicable but are required when reliability and service life are impacted. Survivability includes nuclear survivability.

D.5.3.5 <u>Block 40. Other considerations</u>. The effects of the proposed engineering change on the following shall be identified on an enclosure indexed by appropriate identification adjacent to the factor affected:

a. Interfaces having an effect on adjacent or related items, (output, input, size, mating connections, etc.).

b. GFE or Government Furnished Data (GFD) changed, modified or obsoleted.

c. Physical constraints. Removal or repositioning of items, structural rework, increase or decrease in overall dimensions.

d. Software (other than operational, maintenance, and training software) requiring a change to existing code and/or, resources or addition of new software.

e. Rework required on other equipment not included previously which will effect the existing operational configuration.

f.   Additional or modified system test procedures required.

g.   Any new or additional changes having an effect on existing warranties or guarantees.

h.   Changes or updates to the parts control program.

i.   Effects on life cycle cost projections for the configuration item or program, including projections of operation and support costs/savings for the item(s) affected over the contractually defined life and projections of the costs/savings to be realized in planned future production and spares buys of the item(s) affected.

D.5.3.6 <u>Block 41. Alternate solutions</u>. A summary of the various alternative solutions considered, including the use of revised operation or maintenance procedures, revised inspection or servicing requirements, revised part replacement schedules, etc., shall be included. The contractor shall provide an analysis of the alternatives, identify the advantages and disadvantages inherent in each feasible alternative approach, and show the reasons for adopting the alternative solution proposed by the ECP. When the contractor's analysis addresses new concepts or new technology, supporting data (to include LSA if contractually required) should be presented with the proposal to authenticate the trade-off analysis.

D.5.3.7 <u>Block 42. Developmental status</u>. When applicable, the contractor shall make recommendations as to the additional tests, trials, installations, prototypes, fit checks, etc., which will be required to substantiate the proposed engineering change. These recommendations shall include the test objective and test vehicle(s) to be used. The contractor shall indicate the development status of the major items of GFE which will be used in conjunction with the change and the availability of the equipment in terms of the estimated production incorporation point.

D.5.3.8 <u>Block 43. Recommendations for retrofit</u>. When applicable, the contractor shall make recommendations for retrofit of the engineering change into accepted items with substantiating data, any implications thereto, and a brief description of the action required. Where retrofit is not recommended, an explanation of this determination shall be provided. Reference shall be made to any enclosure required to state recommended retrofit effectivity (See Block 23a).

D.5.3.9 <u>Block 44. Work-hours per unit to install retrofit
kits</u>. Complete Blocks 44a through 44d to show the amount of work
which must be programmed for various activities to install retrofit
kits. Estimate work-hours to install retrofit kits when weapon
system is undergoing overhaul.

D.5.3.10 <u>Block 45. Work-hours to conduct system tests after
retrofit</u>. Enter the work-hours required to test the system or the
item following installation of the retrofit kit.

D.5.3.11 <u>Block 46. This change must be accomplished</u>. Where
previously approved engineering changes must be incorporated in a
specific order in relation to the proposed change, such order
should be specified.

D.5.3.12 <u>Block 47. Is contractor field service engineering
required</u>? Check applicable box. If "yes" attach proposed program
for contractor participation.

D.5.3.13 <u>Block 48. Out of service time</u>. Estimate the total
time period from removal of the equipment from operational service
until equipment will be returned to operational status after being
retrofitted.

D.5.3.14 <u>Block 49. Effect of this ECP and previously
approved ECPs on item</u>. The contractor shall summarize the
cumulative effect upon performance, weight, electrical load, etc.,
of this ECP and previously approved ECPs when design limitations
are being approached or exceeded. Consequences of ECP disapproval
may be stated in this block or in a referenced enclosure.

D.5.3.15 <u>Block 50. Date contractual authority needed</u>. The
contractor shall provide the date by which contractual authority to
proceed is needed to maintain the estimated effectiveness specified
in the ECP and to provide concurrent ILS and logistics support item
deliveries. The contractor should consider the targets for
decision (see 5.4.2.3.1.1) allowing additional time for review,
mailing, and other incidental handling and processing requirements.

\#   D.5.4 <u>Instructions associated with Figure 9d, Estimated net
\#   total cost impact</u>. Block 51 is intended as the summary of the
estimated net total cost/savings impact of a single ECP. In Blocks
51a through d, each cost factor associated with the ECP shall be
considered as to whether such cost or portion thereof under the
subject

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contract is recurring or nonrecurring. Enter cost savings in
columns (a) and (d) as applicable, using entries in the "unit" and
"quantity" columns when appropriate. Savings shall be enclosed
with parentheses. Other costs/savings to the Government resulting
from approval of this ECP shall be entered in column (f) to the
extent these costs can be determined by the contractor. This
estimate of cost impact will be used for planning purposes and for
a cost reduction or VE ECP analysis as to the net saving that would
result. Firm cost proposals shall be submitted on standard form
(SF) 1411, together with the appropriate cost breakdown. If an ECP
affects items being delivered to more than one service, a separate
\#   Block 51 shall be filled out for the quantities to be delivered to
each service. Unless otherwise prescribed, costs of special
tooling, scrap, redesign, etc. shall be divided between the using
services on the basis of the percent of items furnished to each.
The cost analysis applicable to each service shall be appropriately
\#   labeled on each submittal.

D.5.4.1 <u>ECP number</u>. Enter the same ECP number as in Block 8d
of DD Form 1692 (Page 1). If the number is assigned by system,
include system designation.

D.5.4.2 <u>Block 51. Estimated Costs/Savings Summary, Related
ECPs</u>.

D.5.4.2.1 <u>Block 51a. Production costs/savings</u>. Enter the
estimate of costs/savings applicable to production of the CI
resulting from incorporation of the change. Show redesign costs
for the CI in the block titled "engineering, engineering data
revisions" when the item is in production. Enter the projected
life cycle costs/savings applicable to the planned production and
spares buys of the item that are not yet on contract on the
CONFIGURATION ITEM/CSCI line in column (f). Enter the subtotal of
production costs (both nonrecurring and recurring) in the fifth
column.

D.5.4.2.2 <u>Block 51b. Retrofit costs</u>. Enter the estimate of
costs applicable to retrofit of the item, including installation
and testing costs. When Government personnel accomplish, or are
involved in, the installation and/or testing activities, the
estimated costs shall be entered in column (f) on the affected
lines. Show design costs of the retrofit kit and data revision
costs strictly related to retrofit when the CI is in production;
show all redesign and data revision costs when the item is not in
production. Costs of modifications required to existing GFE and
subsequent testing also shall be shown. Enter

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the subtotal of retrofit costs in the fifth column. If some or all
of the retrofit activities and costs will have to be deferred and
placed on contract at a future date, show that deferred portion of
the cost applicable to each line of Block 51b in column (f).

     D.5.4.2.3 <u>Block 51c. Integrated logistic support costs/
savings</u>. Enter the estimated cost of the various elements of ILS
applicable to the item covered by the ECP. On the line titled
"interim support," estimated costs shall be entered based upon the
period of time between initial installation/operation of the item
(aircraft, tank, etc.) as modified by the ECP and Government
attainment of support capability. Such "interim support" costs
shall include costs estimates of contractor recommended/provided
spares and repair parts, special support equipment, training
equipment and personnel training program. On the line titled
"maintenance manpower" shall be entered the estimated costs/
savings for the contracted maintenance support for the remainder of
existing maintenance contracts. Other ILS costs/savings associated
with ILS elements for which appropriate titles do not appear in
Block 51c may be entered in place of a factor not used unless such
costs are covered on DD Form 1692/4 (Page 5) or in related ECPs.
Enter the subtotal of ILS costs/savings in column (e). Enter the
operation and support portion of the life cycle cost/savings on the
subtotal line in column (f).

     D.5.4.2.4 <u>Block 51d. Other costs/savings</u>. If there are
other costs under the contract which do not fall under the
production, retrofit or ILS headings, enter the total of such costs
in Block 51d, column (e). If there are other costs to the
Government which do not fall under the production, retrofit or ILS
headings or under Block 51g, "coordination changes by Government,
enter the total of such costs in Block 51d, column (f).

     D.5.4.2.5 <u>Block 51e. Subtotal costs/savings</u>. Enter the
subtotals of columns (a), (d), (e), and (f) on this line. The
subtotal in column (e) shall be the sum of columns (a) and (d).
This subtotal under the contract then shall be entered on the line
so titled in column (f) and on DD Form 1692 (Page 1), Block 24.

     D.5.4.2.6 <u>Block 51f. Coordination of changes with other
contractors</u>. This term applies to interface changes to items other
than GFE, and changes to GFE being covered under 51b. If such
coordination changes are covered by related ECPs and summarized on
DD Form 1692/4 (Page 5), the estimated costs thereof shall not be
entered in Block 51f. However, if Page 5 is not required, or if
costs of certain coordination changes are not

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tabulated on Page 5, an estimate of such costs shall be entered in Block 51f, when available.

D.5.4.2.7 <u>Block 51g. Coordination changes by Government</u>. Enter in this block an estimate of the cost to the Government of interface changes which must be accomplished in delivered items (aircraft, ships, facilities, etc.) to the extent such costs are not covered in Block 51b or on DD Form 1692/4 (Page 5).

D.5.4.2.8 <u>Block 51h. Estimated net total costs/savings</u>. Enter the sum of all cost savings on column (f) and on DD Form 1692 (Page 1), Block 25.

\# D.5.5 <u>Instruction associated with Figure 9e, Estimated</u>
\# <u>costs/savings summary, related ECPs</u>. Block 52 is intended as the summary of the estimated net total cost impact of both the package of related ECPs and other associated new requirements which are needed to support the modified items. A few revised requirements for ILS, such as ILS plans and maintenance concepts do not appear
\# as headings in Block 51. When only a single ECP is involved, these additional costs for revision of ILS plans, etc. should be shown in
\# Block 51 under the ILS heading, and Block 52 may be omitted.

a. <u>Responsibility for preparation</u>:

(1) <u>Prime contractor</u>. The prime contractor shall summarize the costs/savings of all related ECPs for
\# which the contractor is responsible in Block 52. If there is no system integrating contractor, the prime contractor submitting the basic ECP shall include the costs of related ECPs being submitted by other affected contractors to the extent such information is available.

(2) <u>System integrating contractor</u>. When a system integrating contractor (or coordinating contractor) has contractual responsibility for ECP coordination, the contractor shall summarize the costs of related ECPs of the several primes involved in an interface
\# or interrelated ECP in Block 52 and shall attach it
\# to the ECP package.

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b. <u>Summarization techniques</u>. The costs of certain related ECPs are entirely ILS costs. Thus costs of ECPs for trainers, other training equipment and SE shall be listed in total under the "ILS costs" heading. Other ECPs (applicable to weapons, aircraft, tanks, subsystems thereof, etc.) shall be split into the four subtotals of "production," "retrofit," "ILS," and "other costs" for

\#   entry in Block 52. The sum of the four subtotals
\#   attributed in Block 52, column (c), to an individual ECP should agree with the subtotal of costs/savings under
\#   contract, line e, column (e) of Block 51 of that ECP. Cost breakdowns should be arranged in such manner that costs/savings are neither included more than once on the summary nor omitted. The purpose of the grouping on the cost summary is to arrive at a total ILS cost, and a net total cost of all actions for the complete group of
\#   related ECPs.

\#   c. <u>Software changes only</u>. Block 52 shall not apply in the case where all related ECPs being summarized refer to
\#   software changes only. However, Block 52 required
\#   information shall be provided with the ECP detailing the summary of the individual CSCI costs/savings for each of the related ECPs, grouped by the cost areas, and providing the total costs/savings for all of the related software ECPs.

D.5.5.1 <u>ECP number</u>. Enter the same ECP number as in Block 8d of DD Form 1692 (Page 1). If the number is assigned by system, include system designation.

D.5.5.2 <u>Block 52a. Production costs/savings</u>. Enter the ECP number in column (b). Enter the production subtotals from columns (e) and (f) of Block 51a of each ECP applicable to weapons, aircraft, tanks, subsystems thereof, etc. in columns (c) and (d) respectively. (Note that total costs of ECPs on trainers, training equipment, and SE are entered in Block 52c.)

D.5.5.3 <u>Block 52b. Retrofit costs</u>. Retrofit costs may be charged by the Government to production funds or maintenance funds or may be split between the two. The type of funds used depends upon the phase in the item's life cycle. If the practice

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of the Government in this regard is known to the originator of Page
5, retrofit costs shall be entered in, or split between, Blocks 52b
and 52.c.1, as appropriate. If such practice is unknown, enter in
Block 52b the ECP number and the retrofit subtotals from the
columns (e) and (f) of Block 51b for each applicable ECP.

D.5.5.4 <u>Block 52c. ILS costs/savings</u>. Enter retrofit costs
in Block 52.c.1, if appropriate. Enter in Block 52.c.2 the ILS
subtotals from columns (e) and (f) of Block 51c of each ECP
applicable to weapons, aircraft, tanks, subsystems thereof, etc.
As stated in D.5.4.4, enter costs of ECPs for ILS items in
Blocks 52.c.3, 4, 5 and 6. Enter costs of revision or preparation
of ILS plans and LSA records for the CI or complete system in
Block 52.c.7. Enter in Block 52.c.9 costs of revision of the
interim support plan to the extent such costs have not already been
covered under Block 51c of DD Form 1692/3 (Page 4) of the
applicable ECPs. Enter in Blocks 52.c.10 through 52.c.18 the costs
of all new requirements for ILS not covered by ECPs, such costs
being broken down into nonrecurring and recurring costs, as
appropriate, and totalled in column (c).

D.5.5.5 <u>Block 52d. Other costs/savings</u>. Enter in Block 52d
the sum of the "other costs" totals from column (e) and (f) of
Block 51d of each ECP applicable to weapons aircraft, tanks,
subsystems thereof, etc. Enter the subtotals of columns (c) and
(d) on this line. The subtotal under contract(s) shall then be
entered on the line so titled in column (d).

D.5.5.6 <u>Block 52e. Estimated net total costs/savings</u>. Enter
the sum of the preceding two lines of column (d).

\#   D.5.6 <u>Instructions associated with Figure 9f, "Engineering</u>
\# <u>Change Proposal (Hardware)"</u>. See 5.4.2.3.5 for information as to
\# when Block 56 is required. For software-only ECPs, Block 60 shall
    be used instead to summarize the detailed software events schedule.
\# If the ECP impacts both software and hardware, the information
\# required by both Blocks 56 and 60 shall be included, as
    appropriate.

D.5.6.1 <u>ECP number</u>. Enter the same ECP number as in Block 8d
of DD Form 1692 (Page 1). If the number is assigned by system,
include system designation.

D.5.6.2 <u>Block 53. CAGE code</u>. Enter the CAGE code for the
activity originating the ECP.

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D.5.6.3 <u>Block 54. Configuration item nomenclature</u>. Enter the information from Block 16.

D.5.6.4 <u>Block 55. Title of change</u>. Enter the information from Block 13.

D.5.6.5 <u>Block 56. Milestone chart</u>. Enter the symbols (see legend on form), as appropriate for the activity, to show the time phasing of the various deliveries of items, support equipment, training equipment, and documentation incorporating the basic and related ECPs. Enter other symbols and notations to show the initiation or termination of significant actions. All dates are based upon months after contractual approval of the basic ECPs.

\#   D.5.7 <u>Instructions associated with Figure 9g, "Engineering Change Proposal (Software)"</u>. See 5.4.2.3.5 for information as to
\#   when Block 60 is required. For hardware-only ECPs, Block 56 shall
\#   be used instead to summarize the detailed hardware events schedule.
\#   If the ECP impacts both software and hardware, the information
\#   required by both Blocks 56 and 60 shall be included, as appropriate.

D.5.7.1 <u>ECP number</u>. Enter the same ECP number as in Block 8d of DD Form 1692 (Page 1) If the number is assigned by system, include system designation.

D.5.7.2 <u>Block 57. CAGE Code</u>. Enter the CAGE code for the activity originating the ECP.

D.5.7.3 <u>Block 58. CSCI nomenclature</u>. Enter the CSCI name and identification number if applicable, or authorized name and number of the CI(s) affected by the ECP.

D.5.7.4 <u>Block 59. Title of change</u>. Enter the information from Block 10.

D.5.7.5 <u>Block 60. Milestone chart</u>. Enter the symbols (See legend on form.), as appropriate for the activity, to show the time phasing of the various deliveries of items, training equipment and documentation incorporating the basic and related ECPs. Enter other symbols and notations to show the initiation or termination of significant actions. All dates are based upon months after contractual approval of the basic ECP.

\#

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Figure 9a. Engineering Change Proposal - Page 1

Figure 9b. Engineering Change Proposal - Page 2

Figure 9c.   Engineering Change Proposal - Page 3

Figure 9d. Engineering Change Proposal - Page 4

Figure 9e. Engineering Change Proposal - Page 5

Figure 9f. Engineering Change Proposal - Page 6

Figure 9g. Engineering Change Proposal - Page 7

INSTRUCTIONS FOR THE PREPARATION OF
REQUEST FOR DEVIATION/WAIVER

\#

E.1 GENERAL

\#   E.1.1 <u>Scope</u>. This Appendix establishes uniform requirements
for the preparation of the "Request for Deviation/Waiver." This
Appendix is a mandatory part of the standard. The information
contained herein is intended for compliance.

\#   E.1.2 <u>Application</u>. The provisions of this Appendix apply
whenever a request for deviation or request for waiver is prepared.

E.2 APPLICABLE DOCUMENTS

This section is not applicable to this Appendix.

E.3 DEFINITIONS

E.3.1 <u>Definitions used in this Appendix</u>. For purposes of
this Appendix, the definitions contained in Section 3 of this
standard shall apply.

E.4 GENERAL REQUIREMENTS

\#   E.4.1 <u>DD Form 1694</u>. DD Form 1694, Figure 10, is not a
\#   requirement of this standard, and is provided for reference only.
\#   RFDs/RFWs shall be prepared in contractor format, containing the
\#   information required by this Appendix in Block Number sequence.

E.4.2 <u>Request for deviation</u>. The contractor shall request a
deviation when, prior to manufacture, it is necessary to depart
temporarily from the applicable approved configuration
documentation for a specific quantity of deliverable units.
Normally, for the unit(s) affected, the different configuration
will be permanent. (See 5.4.3)

E.4.3 <u>Request for waiver</u>. The contractor shall request a
waiver when, during or after manufacture, the contractor desires
authorization to deliver nonconforming items to the Government
which do not comply with the applicable technical requirements.
For the unit(s) affected, the different configuration will normally
be permanent. (See 5.4.4)

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E.5 DETAILED REQUIREMENTS. Detailed instructions for
\#   completion of the RFD/RFW.

E.5.1 <u>Block 1. Date</u>. Enter the submittal date.

E.5.2 <u>Block 2. Procuring activity number</u>. To be used by
Government for entry of internal processing number if desired.

E.5.3 <u>Block 3. DODAAC</u>. Enter the DODAAC of the procuring
activity.

E.5.4 <u>Block 4. Originator name and address</u>. Enter the name
and address of the contractor or Government activity submitting the
request. Use Block 4a for the contractor or Government activity
name (inclusion of submitting individual's name is optional). Use
Block 4b for the contractor or Government activity address.

E.5.5 <u>Block 5. Deviation or waiver</u>. Enter an "X" in the
appropriate box.

E.5.6 <u>Block 6. Classification</u>. The deviation or waiver
shall be designated minor, major, or critical in accordance with
the definitions in 5.4.3.3 or 5.4.4.3 by entering an "X" in the
appropriate box. When short form procedure is specified by
contract, the Government representative identified in the contract
will make this determination.

E.5.7 <u>Block 7. Designation for deviation/waiver</u>.

E.5.7.1 <u>Block 7a. Model/Type</u>. Enter model or type
designation of the CI for which this request is being submitted.
For CSCIs, enter the CSCI identification number.

E.5.7.2 <u>Block 7b. CAGE Code</u>. Enter the CAGE Code for the
activity originating the deviation/waiver.

E.5.7.3 <u>Block 7c. System designation</u>. The system or top
level CI designation or nomenclature assigned by the Government
shall be entered, if known.

E.5.7.4 <u>Block 7d. Deviation/Waiver number</u>. Deviation/ waiver
identification numbers shall be unique for each CAGE Code
identified activity. Contractors shall include the letter "D" as
part of the deviation number or the letter "W" as part of the
waiver number. Once a number is assigned, that number shall be
retained for all subsequent submissions. Unless otherwise
authorized by the Government, deviations and waivers shall be
separately and consecutively numbered commencing with number one.
As an alternative, numbers may be assigned from a separate series

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for each system that the contractor is producing. The number of
characters in the deviation/waiver number, dash number, and type
identification shall not exceed 15.

E.5.8 <u>Block 8. Configuration baseline affected</u>. Check the
applicable box for the affected baseline. When short form
procedure is specified by contract, the Government representative
identified in the contract will make this determination.

E.5.9 <u>Block 9. Other system/configuration items affected</u>.
Check applicable box. If yes, provide summary data in Block 20.
When short form procedure is specified by contract, the Government
representative identified in the contract will make this
determination.

E.5.10 <u>Block 10. Title of deviation/waiver</u>. Enter a brief
descriptive title of the deviation or waiver.

E.5.11 <u>Block 11. Contract number and line item</u>. Enter the
complete contract number and line item.

E.5.12 <u>Block 12. Procuring contracting officer</u>. Enter the
procuring contracting officer's name, code and telephone number
applicable to the CI shown in Block 15.

E.5.13 <u>Block 13. Configuration item nomenclature</u>. Enter the
Government assigned name and type designation, if applicable, or
authorized name and number of the CI to which the deviation or
waiver will apply.

E.5.14 <u>Block 14. Classification of defect (CD)</u>.

E.5.14.1 <u>Block 14a. CD number</u>. If either a Government or
contractor's CD applies, enter the number assigned.

E.5.14.2 <u>Block 14b. Defect number</u>. If a CD applies, enter
the defect number(s) which correspond(s) with the characteristic(s)
from which an authorized deviation or waiver is desired.

E.5.14.3 <u>Block 14c. Defect classification</u>. If a CD applies
check the box which states the proper classification of the defect
number(s) entered in Block 14b.

E.5.15 <u>Block 15. Name of lowest part/assembly affected</u>. An
appropriate descriptive name of the part(s) shall be given here
without resorting to such terms as "Numerous bits and pieces".

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E.5.16 <u>Block 16. Part number or type designation</u>. Enter the part number(s) of the part(s) named in Block 15 or type designation/nomenclature if applicable.

\#   E.5.17 <u>Block 17. Effectivity</u>. Define the effectivity of the\#
      proposed RFD/RFW by entering, as applicable, the quantity of items\#   affected, the serial numbers of the items affected, or the l\#t   number(s) applicable to the lot(s) affected by the deviation \#r   waiver being requested.

E.5.18 <u>Block 18. Recurring deviation/waiver</u>. Show whether the same deviation or waiver has been requested and approved previously by placing an "X" in the proper box. If "yes," reference the previous correspondence, the request number, and corrective action to be taken in Block 24. In addition, if yes, provide rationale why recurrence was not prevented by previous corrective action and/or accomplished design change.

E.5.19 <u>Block 19. Effect on cost/price</u>. Enter the estimated reduction or price adjustment. If no change in price, cost, or fee, so state with rationale. The request for deviation or waiver shall include the specific consideration that will be provided to the Government if this "non-conforming" unit(s) (See FAR Part 46.407) is accepted by the Government.

E.5.20 <u>Block 20. Effect on delivery schedule</u>. State the effects on the contract delivery schedule that will result from both approval and disapproval of the request for deviation or waiver.

E.5.21 <u>Block 21. Effect on integrated logistics support, interface, or software</u>. If there is no effect on logistics support or the interface, enter the words, "No effect". If the deviation or waiver will have an impact on logistics support or the interface, describe such effects on an enclosure and reference the enclosure in this block. When short form procedure is specified by
\#   contract the Government representative identified in the contract will make this determination.

E.5.22 <u>Block 22. Description of deviation/waiver</u>. Describe the nature of the proposed departure from the technical requirements of the configuration documentation. The deviation or waiver shall be analyzed to determine whether it affects any of the factors listed in Block 37, 39, and 40 of DD Form 1692/2. Describe any effect on each of these factors. Marked drawings should be included when necessary to provide a better understanding of the deviation or waiver.

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E.5.23 <u>Block 23. Need for deviation/waiver</u>. Explain why it is impossible or unreasonable to comply with the configuration documentation within the specified delivery schedule. Also explain why a deviation or waiver is proposed in lieu of a permanent design change.

E.5.24 <u>Block 24. Corrective action taken</u>. Describe action being taken to correct non-conformance to prevent a future recurrence.

E.5.25 <u>Block 25. Submitting activity authorized signature</u>. An authorized official of the activity entered in Block 4 shall sign in this block and enter title.

E.5.26 <u>Block 26. Approval/disapproval</u>. This block will be completed by the Government activity authorized to make the decision on the request for deviation or waiver.

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Figure 10.   Request for Deviation/Waiver

INSTRUCTIONS FOR PREPARATION OF
SPECIFICATION CHANGE NOTICE

F.1 GENERAL

F.1.1 <u>Scope</u>. This Appendix establishes uniform requirements
for preparing the "Specification Change Notice". This Appendix is
a mandatory part of the standard. The information contained herein
is intended for compliance.

F.1.2 <u>Application</u>. The SCN shall provide the information
required by this Appendix. The SCN should only state the exact
change proposed to the specification.

F.2 APPLICABLE DOCUMENTS

This section is not applicable to this Appendix.

F.3 DEFINITIONS

F.3.1 <u>Definitions used in this Appendix</u>. For purposes of
this Appendix, the definitions contained in Section 3 of this
standard shall apply.

F.4 GENERAL REQUIREMENTS

F.4.1 <u>Application</u>. Paragraph 5.4.6 identifies situations
under which an SCN is required.

F.4.2 <u>DD Form 1696</u>. DD Form 1696, Figure 11, is not a
requirement of this standard, and is provided for reference only.
SCNs shall be prepared in contractor format, containing the
information required by this Appendix in Block Number sequence.

F.4.3 <u>Pages affected by this SCN and previously changed</u>
<u>pages</u>. The SCN shall clearly show those specification pages
affected by this SCN, and those specification pages affected by
previously submitted SCNs.

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F.5 DETAILED REQUIREMENTS. Detailed instructions for
\#   completion of the SCN.

F.5.1 <u>Block 1. Date</u>. Enter the submittal date of the SCN.

F.5.2 <u>Block 2. Procuring Activity No.</u> To be used by
Government for entry of internal processing number, if desired.

F.5.3 <u>Block 3. DODAAC</u>. Enter the DODAAC of the procuring
activity.

F.5.4 <u>Block 4. Originator name and address</u>. Enter the name
and address of the contractor or Government activity which is
preparing the SCN. Use Block 4a for the contractor or Government
activity name (inclusion of submitting individual's name is
optional). Use Block 4b for the contractor or Government activity
address.

F.5.5 <u>Block 5. SCN type</u>. Indicate by an "X" in the
appropriate block if this is a proposed SCN. If the SCN is being
submitted to the Government for final technical approval, prior to
distribution according to the contract, both blocks should be left
blank. The approved block will be marked by the Government upon
approval/contractual implementation.

F.5.6 <u>Block 6. CAGE Code</u>. Enter the CAGE Code of the design
\#   activity for the specification identified in Block 7.

F.5.7 <u>Block 7. Specification number</u>. Enter the identification
number, including revision letter, of the specification being
changed.

F.5.8 <u>Block 8. CAGE Code</u>. Enter the CAGE Code of the
activity preparing the SCN.

F.5.9 <u>Block 9. SCN number</u>. Enter the identification number
for the SCN being submitted. SCN numbers are issued sequentially
for each specification and revision, starting with the number "1".

F.5.10 <u>Block 10. System designation</u>. Enter the type, model,
series (or the nomenclature number) for the system (or major item
of equipment, if it is not a system) affected.

F.5.11 <u>Block 11. Related ECP number</u>. Enter the complete ECP
number (including dash numbers and revisions) that identifies the
related engineering change.

F.5.12 <u>Block 12. Contract number</u>. Enter the complete contract number(s) affected by this SCN, if applicable.

F.5.13 <u>Block 13. Contractual authorization</u>. There should be no entry in this block on a proposed SCN. For the approved SCN only, enter the number of the contract modification document used to contractually implement the change. If a unilateral change order is utilized for initial authorization, it's number shall be entered in this block.

F.5.14 <u>Block 14. Configuration item nomenclature</u>. Enter the nomenclature (name and number) of the CI affected by the change. Normally, this will be different than Block 10.

F.5.15 <u>Block 15. Effectivity</u>.

a. For hardware, enter the serial numbers of the items for which this SCN is effective. Usually this will include the applicable production line items plus items approved for a retrofit or modification program.

b. For CSCIs, enter the revision or version of the CSCI to which the change applies. If a new version is warranted by the incorporation of this ECP, the new version number should be entered here.

F.5.16 <u>Block 16. Pages affected by this SCN. (Indicate deletions)</u>. The entries in this section (upper half) shall provide information about the pages affected by the SCN being submitted. Enter a listing of all pages being changed by this SCN and indicate whether the pages are being superseded or added (by entering an "S" or an "A" in the column) or deleted (by printing the word "deleted" after the page numbers so affected). A separate line should be used for each category of page change. Once the SCN has been approved by the Government, enter the approval date (from Block 18) in this block.

F.5.17   <u>Block 17. Summary of Previously Changed Pages.</u>

F.5.17.1 <u>Block 17a. SCN number</u>. For all SCNs previously submitted, enter the identification number of each SCN starting with SCN number 1 at the top of the column.

F.5.17.2 <u>Block 17b. Related ECP number</u>. Enter the identification number (including revision designator and dash numbers) of each ECP effected by each previously issued SCN against this specification revision.

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F.5.17.3 <u>Block 17c. Pages</u>. List the pages changed by each previously issued SCN against this specification. A separate line should be used for each category of page change.

F.5.17.4 <u>Block 17d. Date submitted</u>. For a proposed SCN, enter the submittal date for each previously submitted SCN opposite the appropriate SCN number in Block 17. For the approved SCN, enter the submitted date for each previously submitted SCN that has been approved opposite the appropriate SCN number in Block 17.

F.5.17.5 <u>Block 17e. Type of Change</u>. Indicate whether the pages are being superseded or added (by entering an "S" or an "A" in the column).

F.5.17.6 <u>Block 17f. Approval date</u>. For each approved SCN previously submitted, enter its approval date on the same line as the SCN number in Block 17.

F.5.18 <u>Block 18. Government activity</u>. The Government contracting officer, or a duly appointed representative, will affix an approval signature and the date in this block, and will mark an "X" in the approved box, to designate approval of the SCN. The signature denotes technical concurrence with the contents of the DD Form 1696 and attached change pages. When Block 18 has been signed and the approved box has been marked, the status of the SCN changes from a proposed SCN to an approved SCN.

Figure 11. Specification Change Notice

\#   INSTRUCTIONS FOR PREPARATION OF NOTICE OF REVISION

        G.1   GENERAL

        G.1.1   <u>Scope</u>.   This Appendix establishes uniform requirements
\#   for preparing "Notice of Revision". This Appendix is a mandatory
        part of the standard.   The information contained herein is intended
        for compliance.

        G.1.2   <u>Application</u>.   See 5.4.7 for NORs applicability.

        G.2   APPLICABLE DOCUMENTS

        This section is not applicable to this Appendix.

        G.3   DEFINITIONS

        G.3.1   <u>Definitions used in this Appendix</u>.   For purposes of
this Appendix, the definitions contained in Section 3 of this
standard shall apply.

        G.4   GENERAL REQUIREMENTS

\#   G.4.1   <u>DD Form 1695</u>.   DD Form 1695, Figure 12, is not a
\#   requirement of this standard, and is provided for reference only.
\#   NORs shall be prepared in contractor format, containing the
\#   information required by this Appendix in Block Number sequence.

        G.5   DETAILED REQUIREMENTS.   Detailed instructions for
\#   completion of the NOR.

        G.5.1   <u>Block 1. Date</u>.   Enter the submittal date of the NOR.
Normally this date will be identical to the ECP submittal date.

        G.5.2   <u>Block 2.   Procuring Activity No.</u>.   To be used by
Government for entry of interim processing number, if desired.

        G.5.3   <u>Block 3.   DODAAC</u>.   Enter the DODAAC of the procuring
activity.

        G.5.4   <u>Block 4.   Originator name and address</u>.   Enter the name
and address of the contractor or Government activity submitting the
proposed NOR.   Use Block 4a for the contractor or Government
activity name (inclusion of submitting individual's name is
optional).   Use Block 4b for the contractor or Government activity
address.

G.5.5 Block 5. CAGE code. Enter the CAGE code of the
\#   originator of the ECP.

G.5.6 Block 6. NOR number. Unless the use of a Government
assigned number is prescribed, the originator shall either assign a
number or enter the document number and new revision letter as the
NOR number. When the requirement in the contract identifies the
NOR by ECP number, the originator shall attach a dash number (i.e.,
xxx-1).

G.5.7 Block 7. CAGE Code. Enter the CAGE Code of the
original design activity which appears on the document to which the
revision applies (See Block 8). If the original design activity is
not the current design activity, also enter the CAGE code of the
current design activity in Block 13.

G.5.8 Block 8. Document number. Enter the number of the
drawing, standard, list or other document(s) to be revised.

G.5.9 Block 9. Title of document. Enter the title of the
document to which the NOR applies.

G.5.10 Block 10. Revision letter.

G.5.10.1 Block 10a. Current. Show the existing revision of
the document for which the NOR is prepared.

G.5.10.2 Block 10b. New. Show the revision letter proposed
for the revision covered by the NOR. Usually the new letter will
be the one following the current letter in alphabetical sequence,
unless there are known outstanding NORs which may not have been
incorporated.

NOTE: The Government may change the new revision letter proposed
by the contractor in order to retain a proper sequence of approved
revisions.

G.5.11 Block 11. ECP number. Enter the number of the ECP
describing the engineering change which necessitates the document
revision covered by this NOR.

G.5.12 Block 12. Configuration item (or system) to which ECP
applies. Enter Government assigned system designation (if any);
otherwise, enter the name and type designation of the CI to which
the ECP applies (see Blocks 8a, 8c and 16 on ECP Form 1692).

G.5.13 Block 13. Description of revision. Describe the
revision in detail, giving the exact wording of sentences or

paragraphs that are to be added, or that are to replace designated sentences or paragraphs of the current document. State the dimensions, tolerances and other quantitative requirements that are to replace current requirements. Attach a marked print when necessary to clearly explain the desired revision. Use a "From - To" format in the description of the change. If additional space is needed, use continuation pages.

G.5.14 <u>SECTION 14 - This section for Government use only</u>.

G.5.14.1 <u>Block 14a. Document status</u>. The Government approving activity will enter an "X" in the first box if manufacturer may proceed using the existing document as modified by this NOR. If so, a copy of the approved NOR will be furnished both to the contractor submitting the ECP and to the custodian of the master document. The Government approving activity will enter an "X" in the second box if the contractor is not authorized to incorporate the change proposed by the submitted NOR until receipt of the revised document. The Government approving activity will enter an "X" in the third box directing the custodian to make the change and distribute copies of the revised document. The distribution list may be entered in Block 14, on a referenced enclosure, or in a letter of transmittal.

G.5.14.2 <u>Blocks 14b. and 14c. Activity authorized to approve change</u>. The name of the activity authorized to approve the ECP and the associated NORs for the Government will be entered by such activity.

G.5.14.3 <u>Blocks 14d., 14e., and 14f. Title, signature and date</u>. If the referenced ECP is approved and the NOR also is approved as written or corrected, an authorized representative of the Government approving activity will sign in this block, including entry of the date of approval.

G.5.15 <u>Block 15. Activity</u>.

G.5.15.1 <u>Block 15a. Activity accomplishing revision</u>. The name of the activity (custodian) that is directed to make the revision in the master document will be entered by the approving activity.

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G.5.15.2 <u>Blocks 15b. and 15c. Revision completed and date</u>.
An authorized representative of the custodian shall sign in this
block to certify that the revision described by the NOR has been
accomplished, including entry of the date of the accomplishment.
The signed original shall be returned to the Government or held by
the activity that maintains the master document.

Figure 12. Notice of Revision

APPENDIX H

CONFIGURATION STATUS ACCOUNTING (CSA)
REQUIREMENTS AND RECORDS

H.1 GENERAL

H.1.1 <u>Scope</u>. This Appendix establishes requirements for CSA of the documentation and identification numbers which describe CIs, for CSA of the processing and implementation of changes to CIs and their associated documentation, and for CSA of the actual configuration of units of CIs.

H.1.2 <u>Applicability</u>. The CSA requirements established by this Appendix shall apply throughout the life cycle of CIs and systems, as appropriate. CSA work tasks, data base information elements, and reporting systems will be tailored to address the phase of the life cycle, the scope of the program, other contractual provisions, and the complexity of the item being procured. Contracts invoking this Appendix will specifically identify the appropriate applicable tasks and/or paragraphs in the contract statement of work or tasking directive. Tailoring instructions are provided in Section 6.

H.1.2.1 A considerable amount of data is required in order to accomplish the status accounting function for a program. However, it is not cost-effective to buy the entire CSA capability from the contractor. Indeed, many DoD activities have existing information systems that will provide much of the needed information (or they have the software for information systems into which you can enter and manage your information) and will usually provide this information/capability at no cost to your program. Without specifying the source for the information, paragraph H.5 defines both the minimum requirements (defined in Tasks X0X, such as Task 502) that must be included in most CSA management information systems and the optional requirements (defined in Tasks X1X, such as Task 413) that may be useful for some programs to include in their CSA management information system.

H.1.2.2 This Appendix will be tailored by the Government in accordance with Section 6 to specifically identify only those CSA responsibilities to be levied upon the contractor. Those minimum requirements of paragraph H.5 which are not required of the contractor will normally have to be accomplished by the Government. Both the minimum and optional requirements to be accomplished by the Government should be identified in the Program Management documentation; specific Government activities

will be designated as responsible for their accomplishment. Minimum requirements in paragraph H.5 which are to be waived for the program (that is, accomplished by neither the contractor nor the Government) should be identified and explained in the Program Management Documentation.

H.1.2.3 The contractor is responsible for the determination of the extent to which the requirements in the contract are applicable to subcontractors, vendors, and suppliers and for the application of those necessary requirements to those subcontractors, vendors, and suppliers in order to meet the requirements of the Government. However, the contractor shall be responsible for providing all of the information required by the tailored application of this Appendix in the contract, including the acquisition of the needed data from the subcontractors, vendors, and suppliers.

H.2 APPLICABLE DOCUMENTS

This section is not applicable to this Appendix.

H.3 DEFINITIONS

H.3.1 <u>Definitions used in this Appendix</u>. For purposes of this Appendix, the definitions of terms contained in Section 3 of this standard and the definitions of the data elements contained in Appendix I of this standard apply.

H.4 GENERAL REQUIREMENTS. This section is not applicable to this Appendix.

H.5 SPECIFIC REQUIREMENTS

H.5.1 <u>Information system requirements</u>.

H.5.1.1 <u>Descriptive documentation and identification numbers</u>. An information/management system shall be established to maintain a record of the most current versions of the documents, or their electronic equivalents, which describe the CIs (and their component parts and assemblies) and to maintain a record of the most current identification numbers used to identify the CIs (and their component parts and assemblies). The system shall also identify all proprietary or restricted data and the CIs to which it applies and all licensing agreements and the CIs to which each applies. Specific information system capabilities and data elements selected from the following tasks shall be provided. These data elements shall be incorporated

into the system progressively and not later than the date when they first come under Government control as a result of the establishment of the FBL, ABL, or PBL. These data elements shall be updated as changes from the baseline configuration are approved, so that the most current descriptive information is the primary information stored. However, where continuing operational use of more than one configuration of a CI is approved, the system shall identify all currently approved documentation/identification numbers for those configurations.

H.5.1.1.1 <u>Task 101: Specification revision/SCN level</u>. For each specification prepared and maintained for this program to describe and control the performance and/or design of the system and its component CIs, a record shall be established and kept current. (For multi-volume specifications, a separate record shall be maintained for each volume.) A record of the same information shall be included for each specification describing an item of GFE used in the system. The record shall show:

a.   The specification identification number

b.   The specification title

c.   The CAGE Code for the design activity

d.   The CI nomenclature

e.   The current revision letter and date of issue

f.   The most current approved SCN number

g.   The date of SCN approval

h.   The related ECP number

i.   The contract number and CDRL sequence number.

H.5.1.1.2 <u>Task 102: Specification revision/SCN history</u>. The information system shall maintain a historical file of the information in Task 101 for each revision of each CI specification from the date of initial release of the basic specification through the current revision and SCN.

H.5.1.1.3 <u>Task 103: Drawing revision level</u>. For each drawing (or equivalent electronic record) which is prepared and maintained to describe the parts and which is used to manufacture

and support the system and its component CIs, a record shall be established and kept current. The record shall reflect:

a.   The drawing number

b.   The CAGE Code for the design activity

c.   The drawing title

d.   The current revision level

e.   The part number(s) of the part(s) changed as a result of that drawing change and the effectivity of the part(s) in terms of CI serial numbers

f.   The ECP number effecting the change, where applicable, and the identifier of the contractor's change document effecting the detailed change to the software and associated documentation.

g.   The effective release date

h.   The contract number and CDRL sequence number.

H.5.1.1.4 Task 104: Drawing revision history. The information system shall maintain a historical file of the information in Task 103 for each drawing revision from the date of release through the current revision.

H.5.1.1.5 Task 105: Software version level. For each item of software purchased/created and maintained for the operation and maintenance of this system and its component CIs, a record shall be established and kept current. The record shall reflect:

a.   The software identification number

b.   The related CSCI specification number and title

c.   The CAGE Code for the design activity

d.   The software title

e.   The current version and interim version level

f.   The ECP number effecting the change, where applicable, and the identifier of the contractor's change document

effecting the detailed change to the software and associated documentation.

g.   The effective release date of the current version/ interim version

h.   The number, title, version and date for the current operations/programmers/maintenance manuals and version description document

i.   The number, title, version and date for the current test procedures

j.   If the software is resident on a "read only" device (e.g., PROM), the current part number for the software/medium combination

k.   The contract number and CDRL sequence number.

H.5.1.1.6 <u>Task 106: Software version history</u>. The information system shall maintain a historical file of the information in Task 105 for each version and interim version of the software from the date of initial release of the software through the current version.

H.5.1.1.7 <u>Task 107: CI component indentured listing</u>. For each CI, a record shall be generated and kept current identifying the CI by name and identifier. The record shall also identify the number, name, and CAGE Code for all hardware parts/assemblies and sub-assemblies (for software, the source code and object code components/units) that comprise the CI. It shall be presented in a hierarchical, or indentured, manner so that the "level of assembly" relationships (e.g., where used, next assembly) of the various pieces of the CI can be understood by looking at the arrangement of the record. As a minimum, the record shall list all parts/logical units that have been selected by the Government for logistics support and all components of those parts that have been selected as spares, including those of superseded but still used configurations.

H.5.1.1.8 <u>Task 111: Program contracts listing</u>. For each active contract affecting the program, a record shall be established and kept current. Contracts to be monitored include those which have been issued by the primary Government activity for the program (e.g., development, long-lead, production, and

spares) or by other Government activities (e.g., separate spares
buys, GFE, and modifications) and for which all work and/or
deliveries have not yet been completed. Each record shall include:

a. The contract number

b. The CAGE Code of the contractor

c. The CI identifiers, nomenclature(s), or part number(s) of
the top level assembly(s) being delivered under the
contract

d. The number of units to be delivered under the contract.

H.5.1.2 <u>Tracking active change processing</u>. An information/
management system shall be established capable of tracking all
proposed changes from first communication of an idea between the
Government and the contractor through either official notice of
disapproval or formal issuance of a final negotiated contract
modification. The system shall contain general information about
the change proposal and shall track specific events and dates
associated with the processing of the change. Specific information
system capabilities and data elements selected from the following
tasks shall be provided. The system shall contain the required
information for the initial study document, for the formal
proposal, and for each correction or revision to the proposal(s),
and it shall provide cross-correlation for all related (dash
numbered) and companion (associate contractor) formal proposals.

H.5.1.2.1 <u>Task 201: Changes being processed status</u>. For
each change idea initiated by either the contractor or the
Government, the tracking system shall establish and keep current a
separate record to identify:

a. The type of change involved (e.g., ECP, deviation/waiver)

b. The change identification number (e.g., ECP number)

c. The CAGE Code of the originator

d. The change title

e. The configuration baseline(s) affected

f.   The title and number of the affected specification(s)

g.   The related SCN/NOR number

h.   The priority

i.   The date on which the change was transmitted to the
      Government

j.   The "need date" for a decision on the change

k.   The final CCB decision

l.   The date on which the official decision notification was
      provided to the contractor.

H.5.1.2.2 **Task 202: Changes being processed history**. The
information system shall maintain a historical file of the
information in Task 201 for each change document submitted by the
contractor to the Government throughout the life of the contract.

H.5.1.2.3 **Task 211: Event date entries**. For each change
tracked in Task 201, the system shall identify and suspense the
discrete activities involved in the review of the change by the
Government. It shall automatically assign suspense dates by which
those activities must be completed, based on the need date and the
priority of the change. The Government's change manager will have
the capability to change suspense dates (except the need date) and
to input completion dates reflecting the status of the processing
of the change. Some of the typical events which this information
system shall be capable of tracking include:

a.   Change receipt

b.   Distributed for coordination/comments

c.   Coordination/comments due

d.   Technical meeting

e.   Corrections due from contractor

f.   CCB

g.   Directive to contracting

   h.   Design activity's need date

   i.   Contract modification issued.

   H.5.1.2.4 <u>Task 212: Change processing history</u>. For each
change tracked in Task 211, the information system shall maintain a
historical record of the dates of all specific Government events
throughout the life of the contract.

   H.5.1.2.5 <u>Task 213: Date search capabilities</u>. For each
change tracked in Task 201, when a specific beginning and end date
are specified by the user, the system shall have the capability to
provide information (as a calendar listing sorted by day) about all
scheduled, but not yet completed, events during that time span.
Likewise, when an "as of" date is specified by the user, the system
shall have the capability to identify all scheduled, but not yet
completed, events that should have been accomplished by that date
and to sort them by the magnitude of their delinquency.

   H.5.1.3 <u>Approved changes to CI configuration</u>. An
information/management system shall be established to document the
initial approved configuration of each CI and to identify the
impact of each approved, contractually authorized Class I (or
agreed-to Class II) change to the approved configuration. The
following task defines the specific information system capabilities
and data elements which may be required.

   H.5.1.3.1 <u>Task 301: Approved change identification and
effectivity</u>. For each CI, a historical record documenting all of
the changes that have been approved against that CI shall be
established and kept current. The record shall reflect:

   a.   The change identification number

   b.   The CAGE Code of the originator (plus for Class I changes
        the identification number of the Government procuring
        activity)

   c.   The title of the change

   d.   The date of approval of the change

   e.   The contract modification number, if appropriate

   f.   The complete unit serial number effectivity (or the month
        and year of implementation for Class II changes)

g.   The serial numbers of already-delivered units to be modified as a result of the change

h.   The new part numbers and/or drawing revision levels and/or new software component/unit versions (and related affected manuals) resulting from each approved change

i.   The contract number and CDRL sequence number.

H.5.1.4 <u>Implementation of approved changes</u>. An information/management system shall be established to track the accomplishment of all tasks required as a result of all approved change proposals. The system shall include key elements of information about each change, including the functional activities responsible for the accomplishment of the tasks. The system may be required to establish and track scheduled and actual dates for the accomplishment of the various tasks involved in the implementation of each approved change. Specific information system capabilities and data elements selected from the following tasks shall be provided.

H.5.1.4.1 <u>Task 401: Approved change implementation activities</u>. For each change approved against the system or one of its component CIs, the record established for Task 301 shall include specific suspense dates for the completion of all activities related to each of the major areas of impact of the change. The record shall also identify the specific contact point responsible for each activity, including their phone number. As appropriate to the change involved, these activities include, but are not limited to, the following:

a.   Status of Redesign and Testing

b.   Specification Change/Revision Activity

c.   Drawing Revision Activity

d.   Software Revision Activity

e.   Technical Manual Preparation/Revision

f.   Spares Purchase and Distribution

g.   Support Equipment Design, Purchase, or Modification

h.   Retrofit/Modification Kit Development

i.   The contract number and CDRL sequence number.

H.5.1.5 Detailed approved change implementation activities.
For each change approved against the system or one of its component
CIs, each implementation area tracked in the record from Task 401
shall be expanded, as identified in the contract. It shall
identify specific discrete activities leading to the completion of
the work in that specific implementation area, and it shall include
specific suspense dates for the completion of each of those
discrete activities. Typical activities which this information
system shall be capable of tracking are included in each of the
following tracking areas:

H.5.1.5.1 Documentation revision activity.

H.5.1.5.1.1 Task 411: Specification change/revision
activity. If the change has affected a specification, the record
shall track the activities required to distribute the official SCN
to holders of the specification in the field. In some cases, the
approved change will result in a revision to the specification; the
record shall track the similar activities required to distribute
the revised specification. Typical discrete events include:

a.   Approval copy prepared (update of originals)

b.   Copy submitted to Government

c.   Copy approved by Government

d.   Approved copy received by contractor

e.   SCN and pages distributed to all addressees.

H.5.1.5.1.2 Task 412: Drawing revision activity. If the
change has affected a drawing, the record shall track revision,
review, and official release of the drawing incorporating the
change. Typical discrete events include:

a.   Receipt of approved change document

b.   Drafting of official drawing changes

c.   Review and approval by design function A (e.g., drafting)

d.   Review and approval by design function B (e.g., design)

e.   Review and approval by design function C (e.g., quality)

f.   Approval/concurrence by Government representative

g.   Release of new document

h.   Revised drawings distributed to all addressees.

H.5.1.5.1.3 Task 413: Software revision activity. If the change has affected a software unit, the record shall track the revision, review, and official release of the software incorporating the change. Such tracking shall be provided for software used in the operation of the system, in the maintenance of the system, and/or in trainers and simulators for the system. Typical discrete events include:

a.   Receipt of approved change document

b.   Coding, checkout, and testing of the software changes

c.   Revision of affected manuals

d.   Review and approval by design function A

e.   Review and approval by design function B

f.   Review and approval by design function C

g.   Approval/concurrence by Government representative

h.   Release of new software version

i.   Update of Software Development Library materials

j.   Reproduction on appropriate medium (e.g., floppy disk, cassette, magnetic tape, electronic link)

k.   Revised code and manuals distributed to all addressees.

H.5.1.5.2 Support element update activity.

H.5.1.5.2.1 Task 414: Technical manual and other related document preparation/revision. If the change requires revision of the information in various manuals written for operation or

maintenance of the CI, the new instructions must be available when deliveries of the new design to the field are started or when modification kits are delivered to the field. The record shall track the events leading to the publication and distribution of the new instructions. Typical discrete events include:

a.   Technical writing of the revision

b.   Verification of the instructions

c.   Revalidation of the technical manual

d.   Transmit original to control activity

e.   Reproduction of the required copies

f.   Distribution of the copies to all addressees.

H.5.1.5.2.2 Task 415: Spares purchase and distribution. If the change requires new spare parts to be stocked, the tracking record shall monitor the events required to provide them to the support organizations. Typical discrete events include:

a.   Old and new part numbers

b.   Quantity of new spares required

c.   Design Change Notice (DCN) number

d.   Design Change Notice issued to logistics activity

e.   Purchase/work order issued

f.   Parts received from manufacturing activity

g.   Parts shipped to support activity

h.   Parts received by support activity.

H.5.1.5.2.3 Task 416: Support equipment design, purchase, or modification. If the change requires the development or purchase of new support equipment, the tracking record shall monitor the events required to provide the support equipment to the supporting activities in time to support the new configuration. (When modification of existing support equipment is required to support the new configuration, that modification

will be tracked with a record identical to the one used for tracking modification of operational units.) Typical discrete events include:

    a.   Quantity required

    b.   Purchase/work order issued

    c.   Issuance of requirements documentation

    d.   Redesign, or new design, work completed

    e.   Prototype constructed

    f.   Testing completed

    g.   Final CCB approval

    h.   Update Engineering Release Records

    i.   Production started

    j.   Deliveries to Government.

H.5.1.5.2.4 <u>Task 417: Retrofit/modification kit development</u>. If the change requires that the new configuration approved for the production line be retroactively incorporated (retrofitted) into the units and/or support equipment already accepted by the Government, the tracking record shall monitor the events required to develop the kit of parts and the associated instructions. Typical discrete events include:

    a.   Quantities of kits for delivered units

    b.   Quantities of kits for spare units

    c.   Quantities of kits for training sets

    d.   Purchase/work order issued

    e.   Parts delivered by manufacturing activity

    f.   Installation instructions drafted

    g.   Installation instructions verified

h.   Validation (proofing) of kit and instructions

i.   Delivery of kits to support activity.

H.5.1.6 <u>Configuration of units in the field</u>. An information/management system shall be established to document the exact delivered configuration of each unit, as well as certain specifically identified critical components of each unit, and to track changes to the configuration of each unit and component. Certain critical components of each unit shall be tracked by both part number and serial number. Specific information system capabilities and data elements selected from the following tasks shall be provided. The system shall be capable of identifying the exact configuration of each unit of the CI and of identifying the total number of units having a specific configuration. Where continuing operational use of more than one configuration of a CI is approved, the system shall identify all currently approved configurations and the quantities of each configuration in operational use.

H.5.1.6.1 <u>Task 501: As-built record</u>. As each unit of a CI is manufactured and delivered to the Government, a record shall be established for the Government detailing the exact configuration.

H.5.1.6.1.1 <u>HWCIs</u>. For HWCIs, the as-built data shall correlate to the as-designed engineering data and manufacturing/ quality records. It shall contain:

a.   The verified detailed composition of the item in terms of subordinate HWCIs and subordinate parts, associated serial/lot numbers, and, where applicable, engineering changes incorporated

b.   The variance from as-designed configuration

c.   The design activity CAGE Code for the HWCI(s) and the part(s)

d.   For part(s) with proprietary or restricted rights, or for which licensing agreements apply, a record of the documents which specify the limitations, and their associated design activity CAGE Codes, shall be provided.

H.5.1.6.1.2 <u>CSCIs</u>. For CSCIs, the record shall provide the VDD number and where the CSCI is installed.

H.5.1.6.2 <u>Task 502: Maintenance history</u>. For each unit delivered to the field, the record of the as-built history shall be updated with information reflecting maintenance actions performed on the unit. The record shall reflect the part number and, where applicable, the serial number of any part replaced in the unit by maintenance action.

H.5.1.6.3 <u>Task 503: Retrofit/modification history</u>. For each unit delivered to the field, the record of the as-built history shall be updated with information reflecting the retroactive installation (retrofits or modifications) of new design parts in the unit. The record shall reflect:

a.   The most current part number and name

b.   The serial number of the part currently installed in that unit.

H.5.1.7 <u>Tracking audit action items</u>. An information/ management system shall be established capable of tracking all action items that are established as a part of the functional and physical configuration audits for all of the program's configuration items (and the system, if applicable). The system shall contain general information about the action item and the article that it affects and shall track specific activities and suspenses associated with closing the action item. Specific information system capabilities and data elements selected from the following tasks shall be provided. The system shall be capable of providing cross-correlation of all action items to be able to present the current status of all action items relating to a specific audit for a specific configuration item.

H.5.1.7.1 <u>Task 601: Audit action item status</u>. For each action item officially established by the contractor and the Government at each configuration audit for the program, the tracking system shall establish and keep current a separate record to identify:

a.   The identification number of the CI affected

b.   The type of audit

c.   The identification number of the action item

d.   Short title for the action item

e.   The date the action item was established

    f.   Contractual and/or specification requirement affected

    g.   For each activity identified as required to close out the action item, provide:

        (1)   Identification of the activity

        (2)   Identification of the responsible agency

        (3)   The suspense date for completion of the activity

        (4)   The actual closeout date of the activity.

    H.5.1.7.2 <u>Task 602: Audit action item history</u>. The information system shall maintain a historical file of the information in Task 601, organized by configuration item and by audit type, throughout the life of the contract.

APPENDIX I

CSA DATA ELEMENTS

I.1 GENERAL

I.1.1 <u>Scope</u>. This Appendix identifies and defines a standard set of CSA data elements. The data elements described in this Appendix constitute a minimum set of data elements available for CSA records and reports. This Appendix does not prescribe the utilization of data elements or the format of specific CM records. Except as may be covered elsewhere in this standard, such requirements will be specified by the Government. This Appendix is for guidance only.

I.2 APPLICABLE DOCUMENTS

This section is not applicable to this Appendix.

I.3 DEFINITIONS

I.3.1 <u>Definitions used in this Appendix</u>. For purposes of this Appendix, the definitions of terms contained in Section 3 of this standard apply.

I.4 GENERAL REQUIREMENTS

I.4.1 <u>Standard CSA data elements</u>. Required status accounting information shall be expressed in terms of the standard CSA data elements listed in the detailed requirements of this Appendix. Substitutes, alternatives, or variations shall not be used.

I.4.2 <u>Supplemental CSA data elements</u>. Additional CSA data elements and related features may be added as required and approved by the Government. All supplemental data elements shall be defined in accordance with DoD 5000.12-M.

I.5 DETAILED REQUIREMENTS

ACSN - ALTERNATIVES TO SUGGESTED CHANGE/STUDY. Used to describe each alternative, including cost considerations and desirability of each alternative.

ACSN - BUDGETARY COST ESTIMATES - See ESTIMATED NET TOTAL COST SAVINGS.

ACSN - DATE - See DATE PREPARED.

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ACSN - DESCRIPTION OF CHANGE/STUDY - See DESCRIPTION OF CHANGE.

ACSN - ITEM AFFECTED - See CI NOMENCLATURE, CONTRACT NUMBER, ITEM NAME.

ACSN - ORIGINATOR - See NAME and ADDRESS.

ACTION ITEM DATE. The date on which an audit action item was established.

ACTION ITEM ID. An alphanumeric code used as the unique identifier and primary reference for an audit action item.

ACTION ITEM RESIDUAL TASK ID. An alphanumeric code used as the unique identifier and primary reference for a residual task resulting from an audit action item.

ACTION ITEM TITLE. The short title describing the subject of an audit action item.

ACTUAL PRODUCTION COMPLETION DATE. The actual date that production of the designated units with the engineering change is completed.

ACTUAL RETROFIT. An entry in this field indicates that the change affects an end item currently being retrofit.

ACTUAL DATE. The actual date that a specific activity was completed.

ADDRESS. The street or post office mailing address for an individual or company.

ADVANCE CHANGE STUDY NOTICE (ACSN) - See CHANGE/DOCUMENT TYPE.

ADVANCE CHANGE STUDY NOTICE (ACSN) NUMBER - See CHANGE ID.

ALLOCATED BASELINE (ABL) - See BASELINE IMPACT CODE.

ANALYST. Identify the analyst by name that has been tasked to evaluate and find a solution to the software/firmware problem, and/or enhancement.

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ANALYST ASSIGNED AND COMPLETED DATE. Identify the date the analyst was assigned and the date the analyst completed the task.

ANALYZE-TIME. Identify the time needed to analyze the problem/error/PCR (start and stop time).

APPROVAL. Identify the configuration control board and the date of the approval for the software/firmware.

APPROVAL/DISAPPROVAL FINAL. The approved/disapproved designation of the ECP/RFD/RFW/SCN by the Government implementation authority (e.g., PCO), name and title/ Government activity.

APPROVAL/DISAPPROVAL FINAL DATE. Date of approval/ disapproval of the ECP/RFD/RFW/SCN by the Government implementation authority (e.g., PCO), name and title/ Government activity.

APPROVAL/DISAPPROVAL TECHNICAL. The approved/disapproved designation of the RFD/RFW by the Government technical authority (e.g., Configuration Manager), name and title/ Government activity.

APPROVAL/DISAPPROVAL TECHNICAL DATE. Date of approval/ disapproval of the RFD/RFW by the Government technical authority (e.g., Configuration Manager), name and title/ Government activity.

APPROVAL/DISAPPROVAL TYPE - See DECISION TYPE.

APPLICATION. A code which indicates the application of the engineering release record (ERR) change data to the configuration file.

APPROVED SCN - See CHANGE/DOCUMENT TYPE.

ARRIVAL DATE - See DATE RECEIVED.

ASSOCIATED CHANGE REQUESTS/PROBLEM CHANGE REPORTS. List all associated change requests or problem change reports related to the identified problem/error, and/or enhancement.

AUDIT TYPE. A code used to designate the type of configuration audit.

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BASELINE AFFECTED - See BASELINE IMPACT CODE.

BASELINE IMPACT CODE. The identifier of the baseline affected by a change or RFD/RFW.

BASELINE STATUS. Identify the current status for the software or firmware baseline.

BLOCK NO. - Identification of a group of consecutive production units of a CI designated to have an identical configuration.

CAGE (COMMERCIAL AND GOVERNMENT ENTITY). A five digit code assigned to every government (design) agency or contractor.

CAGE, CURRENT. The CAGE of the controlling design agency of the document.

CAGE, CUSTODIAN. The CAGE of the design agency or contractor responsible for the physical maintenance and modification of the document.

CAGE, DESIGN ACTIVITY - See CAGE.

CAGE, ORIGINAL. The CAGE of the design agency that was responsible for the original generation of the document. This CAGE is the one that becomes part of the document's unique identifier when combined with the document/drawing identification.

CHANGE/DOCUMENT TYPE. A designator used to refer to the type of change/document.

CHANGE ID. An alphanumeric code used as the unique identifier and primary reference of the change.

CHANGE NOTICE/ENGINEERING ORDER ID. Three field containing the type of accompanying Document/Engineering Order, Document/EO Number, and its Revision, if applicable.

CHANGE STATUS. A code indicating the status of the Engineering Change Proposal (ECP), Request for Deviation/ Waiver (RFD/RFW).

CHANGE TITLE. The title of the submitted change.

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CI NOMENCLATURE. A configuration item identifier which includes an alphanumeric designation and/or a noun name.

CI DESIGNATION FOR RFD/RFW - See MODEL/END ITEM CODE or CSCI ID.

CLASS. A code indicating whether an ECP is classified as a Class I or Class II change.

CLASSIFICATION BY CATEGORY. The classification by category of problems detected during software/firmware operations, as follows: (1) Software/firmware problem; (2) Documentation problem; and (3) Design problem.

CLASSIFICATION OF DEFECT (CD) NUMBER. The applicable classification of defect (CD) number of a contractor or Government activity.

CLIN. Contract Line Item Number - The number of the section within the contract which specifies how a specific task is to be accomplished.

CM DECISION DATE. The date that the Configuration Manager signed and dated the change/release document as approved or rejected.

CM RECEIVED DATE. The date that the Configuration Manager received the change/release document from the control center with the design agency recommended decision.

CNTRL RECD CM DECISION. The date that the Control Center received the signed approved or rejected change/release document from the Configuration Manager.

COMMODITY CODE. A code used to assign a basic functional area to the document (i.e., Weapons, Munitions, Fire Control).

COMPUTER SOFTWARE COMPONENT. A distinct part of a computer software configuration item (CSCI). CSCs may be further decomposed into other CSCs and Computer Software Units (CSUs).

COMPUTER SOFTWARE CONFIGURATION ITEM (CSCI) ID. An alphanumeric code used as the unique identifier and primary reference for a computer software configuration item.

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COMPUTER SOFTWARE UNIT (CSU). The basic source code element.

CONFIGURATION ITEM NOMENCLATURE. The nomenclature of an affected configuration item.

CONTRACT DATA REQUIREMENTS LIST (CDRL) SEQUENCE NUMBER. An alphanumeric code used as the unique identifier for a package of data to be delivered as a part of a specific contract.

CONTRACT MOD/AGREE ID. The Contract Modification/ Supplemental Agreement Number (if applicable), authorizing the Engineering Change Proposal (ECP), including Specification Change Notices (SCNs) (if applicable), and Request for Deviation/Waiver (RFD/RFW).

CONTRACT MODIFICATION DATE. The date of the contract modification or supplemental agreement number.

CONTRACT MODIFICATION DATE - See CONTRACT MOD/AGREE ID.

CONTRACT NUMBER. The identification of the contract affected by the action.

CONTRACT OFFICER ID/CODE/TELEPHONE NUMBER. Three fields identifying the Contracting Officer, his/her code, and telephone number.

CONTRACTOR ADDRESS - See ADDRESS.

CONTRACTOR, CAGE - See CAGE.

CONTRACTOR COMMENTS. Any contractor comments regarding software/firmware will be documented (text format).

CONTRACTOR ECP/RFD/RFW NUMBER - See CHANGE ID.

CONTRACTOR ESTIMATED COSTS. The contractor's estimate of the cost of implementation of the change/release action.

CONTRACTOR NAME - See NAME.

CONTRACTUAL DOCUMENT REQUIREMENT IMPACTED. The specific portion (e.g., paragraph number) of a contractual document (e.g., statement of work, baselined configuration document) affected by an audit action item or change document.

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CONTROL IDENTIFICATION - See NEXT HIGHER ASSEMBLY.

COORDINATION OF CHANGES WITH OTHER CONTRACTORS - ACTUAL. The actual costs for interface changes to items other than Government Furnished Equipment (GFE).

COORDINATION OF CHANGES WITH OTHER CONTRACTORS - TARGET. The target costs for interface changes to items other than Government Furnished Equipment (GFE).

COORDINATION OF CHARGES BY GOVERNMENT - ACTUAL. The actual cost(s) for Government interface changes which must be accomplished in delivered items.

COORDINATION OF CHARGES BY GOVERNMENT - TARGET. The target cost(s) for Government interface changes which must be accomplished in delivered items.

CORRECTIVE ACTION TAKEN. A brief description of the action being taken to correct non-conformance to prevent a recurrence of the RFD/RFW.

CRITICAL. A classification of a defect; a classification of a RFD/RFW.

CSCI AFFECTED. Identify the CSCI that is affected.

CURRENT REVISION - See REVISION.

CURRENT SOFTWARE OR FIRMWARE STATUS. Current status associated to the software, firmware, and/or documentation, based on following: Analysis (A); Implementation (I); Re-engineer (R); Test (T); Deferred (D); and Closed (C).

DATA RIGHTS DESIGNATOR - See RIGHTS.

DATE ERR TO CONTROL CENTER - See DATE RECEIVED.

DATE CCB/ACTION - See SCHEDULE DATE or DATE OF DECISION.

DATE CONTRACTUAL AUTHORITY NEEDED. The date by which contractual approval is required in order to avoid delays to the production delivery schedule and/or change pricing proposed in an engineering change.

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DATE COORDINATED. The date a proposed change was distributed for coordination and completion date for coordination.

DATE OF DECISION. The date a decision is made.

DATE OF REVISION. The revision date shown on the revised drawing or document.

DATE PREPARED. The date a change/release document was originally prepared.

DATE RECEIVED. The date a required item or document was received at a designated location.

DATE SUBMITTED. The date assigned to a document(s) submitted to an activity for action, approval or information.

DATE/TIME SOFTWARE INCIDENT OCCURRENCE. List the date and time that the software incident/problem occurred.

DATE TO CONTRACTOR. Date originating contractor is notified of the disapproval decision applicable to the change, deviation, or waiver.

DAYS AFTER CONTRACT APPROVAL. The number of days after contractual authorization to complete each scheduled change action required to implement an approved change.

DECISION TYPE. The code that indicates the type of decision made.

DEFECT CLASSIFICATION - See CRITICAL, MAJOR, or MINOR.

DEFECT NUMBER. Where a CD number applies, the defect number(s) which correspond with the characteristics from which an authorized deviation or waiver is requested.

DESC SOFTWARE AND/OR FIRMWARE INCIDENT OCCURRENCE. Describe in detail the software or firmware incident that occurred.

DESCRIPTION OF CHANGE. A brief summary of a Change, ACSN, or NOR.

DESCRIPTION OF RFD/RFW - A brief summary of a Deviation or Waiver.

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DESIGN AGENCY DECISION DATE. The date the responsible agency signs the recommended decision for the change/release action.

DEVELOPMENT (HOST) HARDWARE. Identify what hardware was used by the developing activity to create the software for the project/system (including modifications and upgrades).

DEVELOPMENT OPERATING SYSTEM (HOST) SOFTWARE. Identify the operating system software used by the developing activity to create the project/system (including version number).

DEVELOPMENT SOFTWARE. Identify the software used by the developing activity to create the project/system (including the version number).

DISK SPACE UTILIZATION. Used to track the utilization of disk space when resource limitations apply.

DISTRIBUTION. Codes used to indicate the authorized circulation or dissemination of a document.

DOCUMENT ID. An alphanumeric code used as the unique identifier and primary reference of the document.

DOCUMENT TITLE. The title of the document.

DOCUMENT TYPE. A designator used to categorize a document.

DODAAC. An alphanumeric code used to designate a specific DOD Acquisition Agency.

DRAWING ID - See DOCUMENT ID.

DRAWING TITLE - See DOCUMENT TITLE.

DRAWINGS AFFECTED. A list of drawings affected by an engineering change. List includes drawing number, CAGE Code, revision level, and any applicable Notices of Revision (NORs).

ECP - ALL LOWER LEVEL ITEMS AFFECTED - See LOWER LEVEL ITEMS AFFECTED.

ECP - BASELINE AFFECTED - See BASELINE IMPACT CODE.

ECP - CLASS I - See DECISION TYPE.

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ECP - CLASS II - See DECISION TYPE.

ECP - CONTRACT NO AND LINE ITEM - See CONTRACT NUMBER and CLIN.

ECP - DATE - See DATE PREPARED.

ECP - DESIGNATION - See CI NOMENCLATURE, CAGE, MODEL/END ITEM CODE, CHANGE ID, ECP REVISION, CHANGE/DOCUMENT TYPE.

ECP - EFFECT ON CONTRACT DELIVERY. A YES (Y) or NO (N) indication as to whether an Engineering Change Proposal (ECP) will affect the delivery date of the item being procured under contract.

ECP - EFFECT ON COST/PRICE - See ESTIMATED COST/SAVINGS UNDER CONTRACT.

ECP - EFFECT ON DELIVERY SCHEDULE. The effects on the delivery schedule that will result from both approval and disapproval of an engineering change or RFD/RFW.

ECP - EFFECT ON FUNCTIONAL/ALLOCATED CONFIGURATION IDENTIFICATION - See ILS IMPACT, SPECIFICATIONS AFFECTED, INTERFACE IMPACT.

ECP - EFFECT ON ILS, INTERFACE, OR SOFTWARE - See ILS IMPACT, INTERFACE IMPACT, or SOFTWARE/FIRMWARE IMPACT.

ECP - EFFECT ON PRODUCT CONFIGURATION DOCUMENTATION, LOGISTICS, AND OPERATIONS - See ILS IMPACT, SPECIFICATIONS AFFECTED, DRAWINGS AFFECTED, CI NOMENCLATURE, INTERFACE IMPACT.

ECP - EFFECT ON PRODUCTION DELIVERY SCHEDULE - See EFFECT ON DELIVERY SCHEDULE.

ECP - NUMBER - See CHANGE ID.

ECP - ORIGINATOR NAME AND ADDRESS - See NAME and ADDRESS.

ECP - PRODUCTION EFFECTIVITY BY SERIAL NUMBER - See PRODUCTION EFFECTIVITY.

ECP - RECOMMENDED ITEM EFFECTIVITY - See RETROFIT EFFECTIVITY.

ECP - RETROFIT EFFECTIVITY - See RETROFIT EFFECTIVITY.

ECP - REVISION or See REVISION. The symbol assigned to an engineering change proposal after a revision has been made.

ECP - TITLE OF CHANGE - See CHANGE TITLE.

END ITEM CODE. See END ITEM NUMBER.

END ITEM NUMBER. The designator for any piece of equipment produced by the assembly of component parts.

ERR DATE. The date of the releasing engineering release record (ERR).

ERR NUMBER. See DOCUMENT ID.

ESTIMATED COST/SAVINGS UNDER CONTRACT. The total estimated costs/savings impact of the Engineering Change Proposal (ECP) on the contract.

ESTIMATED KIT DELIVERY SCHEDULE. The estimated delivery dates for retrofit kits required by the approval of an engineering change.

ESTIMATED NET TOTAL COST/SAVINGS. The total estimated costs/savings impact of the basic and all related change proposals including other costs/savings to the Government.

ESTIMATED RELEASE/DELIVERY DATE. The estimated date that the project/system is to be released/delivered to the user.

FILE IDENTIFICATION. The identifier for a file including its revision or version.

FIND NUMBER. The designator as shown on the engineering drawing used to identify the location of the part. This field is also used for sequence numbers which identify alternate or optional parts to the preferred part.

FLIGHT SAFETY. The identification of a part or document that affects/impacts on the safety of flight of an aircraft.

FOLLOW-UP DISPOSITION. Identify the follow-up disposition taken to implement the solution. Note if the follow-up correction action was taken (Y=YES, N=NO, N/A=Not Applicable).

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FORMAL RELEASE/DELIVERY DATE. The formal release or delivery date of the project/system to the user.

FUNCTIONAL BASELINE (FBL) - See BASELINE IMPACT CODE.

GOVERNMENT ESTIMATED COSTS. The reviewing design agency's estimate of the cost of implementation of the change/release action into a contract.

HOST SYSTEM - See DEVELOPMENT HARDWARE and DEVELOPMENT SOFTWARE.

HOST SOFTWARE - See DEVELOPMENT SOFTWARE.

IMPLEMENTATION SOLUTION. Identify the solution used to implement the change/enhancement.

IN PRODUCTION. An entry in this field indicates that the change affects an end item currently in production.

INSTALLING ACTIVITY. The identity of an organization installing an item or a modification to an item.

INTEGRATED LOGISTICS SUPPORT (ILS) COSTS (TARGET/ACTUAL). The target or actual ILS costs (or savings) resulting from the change action.

INTEGRATED LOGISTICS SUPPORT (ILS) IMPACT. Identify the impact a proposed change (ECP) will have on ILS (e.g., Publications Supply Operations (spares) Support Equipment (including Test Program Sets, Trainers and Training).

INTERIM CHANGE. The identification of a temporary amendment to a document, pending a planned revision.

INTERFACE. Identify if problem is an interface problem.

INTERFACE IMPACT. The impact a proposed change (ECP) will have on interfaces.

ITEM NAME. The noun phrase used to describe an item.

JUSTIFICATION. A code which indicates the justification or reason for the preparation of the engineering change.

KIND DOCUMENT. A code identifying the type of change document submitted.

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LETTER ID. An identification number for correspondence.

LEVEL OF RETROFIT ACCOMPLISHMENT. A code identifying the echelon of maintenance to perform the work associated with a retrofit requirement.

LICENSE RESTRICTIONS DESIGNATOR. A code designating any restrictions on use of delivered items or data which were manufactured/procured under license from another design activity.

LINK IDENTIFIER - See DEVELOPMENT SOFTWARE.

LOCATION. The organizational Activity Code for (Company, Squadron, Wing, etc.) to which the item is assigned. Not the theater of operations to which it is temporarily deployed which may be classified.

LOCATIONS OR SHIP/VEHICLE NUMBER AFFECTED. The geographic locations of, or the aircraft/ship/hull vehicle number for which the retrofit is to be accomplished.

LOT NUMBER. The identifier for a series of identical items made from the same lot of material or undergoing a process (e.g., heat treat) simultaneously. Used for part and material traceability as well as for change incorporation.

LOWEST AFFECTED PART NUMBER(S). The part number(s) for the parts at the lowest level of assembly affected by the proposed change.

MAJOR. A classification of a defect; a classification of an RFD/RFW.

MEDIA ID. The identification of the media on which the software, firmware, or documentation reside (sometimes called programming or software tape (media).

MEMORY UTILIZATION. Used to track memory utilization when resource limitations apply.

MIL SPEC/STD ID. See DOCUMENT ID.

MINOR. A classification of a defect; a classification of an RFD/RFW.

MOD KIT INSTALLATION DATE. Date for installation of a kit to accomplish the retrofit action called for in an ECP and Modification Instruction in a specific serial number or a CI within the specified retrofit effectivity range.

MODEL. An identifier of the specific categorization within Type as used in Nomenclature for a weapon system, e.g., the 14 in the Type-Model/Series F-14D. As a data item usually used to designate the entire Type-Model series.

MODEL/TYPE - See MODEL.

MODIFICATION INSTRUCTION. The instructions for performing a retrofit action. Various titles are used for these instructions, e.g., Time Compliance Technical Order (TCTO) - Air Force, Technical Directive (TD) - Navy, Modification Work Order (MWO) - Army.

MODIFICATION KIT COMPLETION DATE. The date (target or actual) when all changes associated with the modification kit or engineering change proposal have been accomplished.

MODIFICATION KIT NUMBER. The identifier for the assemblage of necessary material required to perform a desired modification.

MODIFICATION KIT TYPE - A code which categorizes the type of change incorporated by a modification kit, e.g., Airframe Avionics, Accessory, Engine, etc.

MODIFICATION WORK ORDER - See MODIFICATION INSTRUCTION.

NAME. The name of a specific individual or company. Also the name of a part or software program.

NAME OF LOWEST PART/ASSEMBLY AFFECTED. The nomenclature of the lowest part/assembly affected.

NATIONAL STOCK NUMBER (NSN). The number assigned to each item of supply repetitively used, purchased, stocked or distributed within the Federal Government. The NSN is a composite of the Federal Supply Classification (FSC) code, the North Atlantic Treaty Organization (NATO) code, and Federal Item Identification Number (FIIN).

NEED FOR CHANGE. A detailed explanation of the need for change, nature of improvement, defect, failure, malfunction, etc.

NEED FOR RFD/RFW - See NEED FOR CHANGE.

NEXT HIGHER ASSEMBLY (NHA). The part number of the next higher level item into which a given part is to be assembled.

NOMENCLATURE - See CI NOMENCLATURE.

NOR - ORIGINATOR NAME AND ADDRESS - See NAME and ADDRESS.

NOR - TITLE OF DOCUMENT - See DOCUMENT TITLE.

NOR - DOCUMENT NO - See DOCUMENT ID.

NOR - NUMBER - See CHANGE ID.

NOR - REVISION, (CURRENT, NEW) - See REVISION.

NOR - REVISION, NEW - See REVISION.

NOR - DATE - See DATE PREPARED.

NOR - DESCRIPTION OF REVISION - See DESCRIPTION OF CHANGE.

NOR - CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES - See CI NOMENCLATURE, MODEL/END ITEM CODE, MODEL/TYPE.

NOTICE OF REVISION (NOR). The identifier of a Notice of Revision (NOR) document which describes changes to a document requiring revision.

NUMBER OF UNITS - See QUANTITY.

ORIGINAL DOCUMENT DATE. The date a document was approved for release.

ORIGINAL DRAWING DATE. The date a drawing was approved for release.

ORIGINAL TITLE. The name of the specification or standard that is being replaced.

ORIGINATOR NAME - See NAME.

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OTHER COSTS/SAVINGS TO GOVERNMENT. Target or actual miscellaneous costs or savings other than coordination costs/savings applicable to the affected contract and related to the change action.

OTHER SYSTEMS/CONFIGURATION ITEMS AFFECTED. A YES (Y) or NO (N) indication as to whether there is an interface effect with other systems or configuration items.

PAGES AFFECTED BY SCN. A code indicating the pages affected (superseded, added, deleted) by an SCN.

PART IDENTIFICATION NUMBER. Page numbers and a code used as the unique identifier and primary reference of the part.

PART NUMBER CHANGED - See PART NUMBER, OLD.

PART NUMBER EFFECTIVITY. The CI serial numbers for which a given part number applies. When a part is re-identified as a result of an engineering change, the effectivity of the old part number is limited (from/to) and the replacing part is made effective (from) in accordance with the effectivity of the change.

PART NUMBER, NEW. The identification of a replacement part.

PART NUMBER, OLD. The identification of a replaced part.

PCR DESCRIPTION. The PCR description will detail the problem or enhancement detected in software, firmware, or documentation.

PCR IDENTIFIER/NUMBER. The PCR identifier/number is the method in which a software, firmware, or documentation problem, and/or enhancement is traced or identified.

PCR TITLE. The PCR title will briefly describe the problem or enhancement detected in software, firmware, or documentation.

PERIOD TIME AFFECTED. The period of time for which a deviation/waiver is being requested.

PRICE ADJUSTMENT. A YES (Y) or NO (N) indicator as to whether a price adjustment will result from a proposed deviation/waiver.

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PRIORITY. A code used in determining the relative speed at which an ECP is to be reviewed.

PRIORITY (SOFTWARE/FIRMWARE). A one-digit (1-5) code used to identify severity of a software problem.

PROBLEM CHANGE REPORT (PCR). A PCR describes each problem or enhancement detected in software, firmware, or documentation that has been placed under configuration control. The PCR shall describe the corrective action needed and the actions taken to resolve the problem. These reports shall serve as input to the corrective action process.

PROCESSING TIME. Used to track CPU utilization on time critical applications and when resource limitations apply.

PROCUREMENT ACTIVITY NUMBER. The Government-assigned identifier for a proposed engineering change proposal, deviation, or waiver.

PROCURING CONTRACTING OFFICER - See NAME; See CONTRACT OFFICER ID/CODE/TELEPHONE NUMBER.

PRODUCT BASELINE (PBL) - See BASELINE IMPACT CODE.

PRODUCTION COMPLETION DATE. The scheduled date for the production of the hardware production units affected by the engineering change.

PRODUCTION COST/SAVINGS. The savings applicable to production of the configuration item resulting from the incorporation of the change.

PRODUCTION EFFECTIVITY. The production serial numbers of the hardware unit affected by an engineering change.

PRODUCTION SEQUENCE NUMBER (IN-OUT) - See PRODUCTION EFFECTIVITY.

PRODUCTION SEQUENCE NUMBER (SHOP SERIAL NUMBER). A specific number of a series assigned by the manufacturer to an individual item for identification.

PRODUCTION SERIAL CUT-IN - See PRODUCTION EFFECTIVITY.

PRODUCTION SERIAL CUT-OUT - See PRODUCTION EFFECTIVITY.

PRODUCTION Y/N. A YES (Y) mark identifies that deliveries have not been completed on the contract. A NO (N) mark identifies that deliveries have been completed.

PROJECT/SYSTEM NAME - See SYSTEM/MODEL IDENTIFICATION NOMENCLATURE.

PROPOSED SCN - See CHANGE/DOCUMENT TYPE.

QUANTITY. The number of parts, assemblies, or bulk materials required.

QUANTITY DELIVERED. The number of items shipped.

QUANTITY ITEM AFFECTED. Number of units of an item affected by a change deviation or waiver.

QUANTITY PER ASSEMBLY. The number of units of an item used in the next higher assembly.

QUANTITY PER END ITEM. The number of units of an item used in a CI.

RECOMMENDED SOLUTION. Identify in detail the recommended solution to be used for the implementation of a correction or enhancement.

RECURRING DEVIATION/WAIVER. A YES (Y) or NO (N) indicator as to whether a Deviation or Waiver has been previously requested and approved.

RELATED MANUALS - See TECHNICAL MANUAL (TM) AFFECTED ID.

RELEASE ID. The identification number of a document which releases a drawing/document for production or procurement.

RELEASE DATE. The date a document was approved and released.

REQUEST FOR DEVIATION - See CHANGE/DOCUMENT TYPE.

REQUEST FOR WAIVER - See CHANGE/DOCUMENT TYPE.

RESPONSIBLE ACTIVITY IDENTIFIER. A designator identifying the activity responsible for performing a specific task.

RETROFIT COMPLETION DATE - See MODIFICATION COMPLETION DATE.

RETROFIT COSTS - TARGET/ACTUAL. Estimated retrofit costs (or savings) against the affected contract for retrofit action.

RETROFIT EFFECTIVITY. The serial numbers of the CIS affected by an engineering change for which retrofit is recommended, approved, or accomplished.

RETROFIT SERIAL CUT-IN (FROM EFFECTIVITY) - See RETROFIT EFFECTIVITY.

RETROFIT SERIAL CUT-OUT (TO EFFECTIVITY) - See RETROFIT EFFECTIVITY.

REVISION. The level assigned to a document or a specific sheet to a released document.

REVISION SYMBOL. A mark such as a bar to indicate that a line of text has changed as a result of a revision.

RFD/RFW CLASSIFICATION - See CRITICAL, MAJOR or MINOR.

RFD/RFW DATE SUBMITTED - See DATE SUBMITTED.

RFD/RFW EFFECTIVITY - See LOT NUMBER, PRODUCTION EFFECTIVITY, OR PERIOD TIME AFFECTED.

RFD/RFW NUMBER - See CHANGE ID.

RFD/RFW ORIGINATOR CAGE - See CAGE.

RFD/RFW ORIGINATOR NAME AND ADDRESS - See NAME and ADDRESS.

RFD/RFW SYSTEM DESIGNATION - See SYSTEM/MODEL IDENTIFICATION PART NUMBER.

RFD/RFW TITLE - See CHANGE TITLE.

RIGHTS. A code identifying whether a document contains proprietary information (limited or unlimited).

ROYALTY EXPIRATION DATE. The date upon which a royalty expires.

SCHEDULED COMPLETION DATE - See SUSPENSE DATE.

SCN APPROVAL DATE - See DATE OF DECISION.

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SCN CONTRACTUAL AUTHORIZATION - See CONTRACT MOD/AGREE ID.

SCN EFFECTIVITY - See PRODUCTION EFFECTIVITY, RETROFIT EFFECTIVITY, and/or VERSION LEVEL.

SCN NUMBER - See DOCUMENT ID.

SCN NUMBERS - PREVIOUS. The DOCUMENT ID for all previously submitted SCNs for the same specification.

SCN ORIGINATOR CAGE - See CAGE.

SCN ORIGINATOR NAME AND ADDRESS - See NAME and ADDRESS.

SCN RELATED ECP NUMBER. The number (including dash numbers and revision) of the ECP to which the SCN is attached.

SCN SYSTEM DESIGNATION - See CI NOMENCLATURE MODEL/TYPE.

SECURITY CLASS. The code for the security classification of a document.

SERIAL NUMBER. A specific number of a series assigned to an individual item for identification.

SERIAL NUMBER EFFECTIVITY - See PRODUCTION EFFECTIVITY or RETROFIT EFFECTIVITY.

SERIAL NUMBER(S) OF UNITS TO BE MODIFIED - See RETROFIT EFFECTIVITY.

SHEET. The individual page number of a multiple sheet entry.

SHIP/VEHICLE CLASS AFFECTED. The identification of a ship/vehicle class, associated with corresponding sets of retrofit cut-in/cut-out numbers, when the delivered configuration item is installed in one or more such classes.

SHIPPING DATE. The date a shipment was sent.

SHIPPING NUMBER. Identifier for a shipment.

SOFTWARE DEVELOPMENT TOOLS. Identify software tools used in development of a version of software for the project.

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SOFTWARE/FIRMWARE/DOCUMENTATION IMPACT. Describe what impact a change will have on the software, firmware, or documentation.

SOFTWARE/FIRMWARE/DOCUMENTATION SEC CLASS - See SECURITY CLASS.

SOFTWARE/FIRMWARE DUPLICATION. A status indicator closing a PCR as a duplicate.

SOFTWARE/FIRMWARE INITIATOR/PHONE/DATE. Identify the initiator, phone number, and date of initiation.

SOFTWARE/FIRMWARE LANGUAGE. Identification of the language in which the program is developed/written, i.e., FORTRAN, COBOL, ADA, etc.

SOFTWARE/FIRMWARE RESIDENCE IDENTIFIER - See MEDIA ID.

SOFTWARE/FIRMWARE TEST SPECIFICATION REFERENCE. Identify the software/firmware test specification reference.

SOFTWARE/FIRMWARE TITLE - See ITEM NAME.

SOFTWARE/FIRMWARE VERSION IDENTIFIER. A control identification (alpha or number and/or both) for the software/firmware to identify the version and revision of software or firmware).

SOFTWARE SUPPORT ACTIVITY (SSA). Responsible for support of the software/firmware on the proposal after the initial development.

SPECIFICATIONS AFFECTED. A list of specifications affected by the approval of an engineering change. Included in list is type of specification, CAGE Code, specification number, revision level, and any associated Specification Change Notices (SCNs).

SPECIFICATION CHANGE NOTICE (SCN) APPROVAL DATE - See DATE/CONTRACTUALLY AUTHORIZED, DATE OF DECISION.

SPECIFICATION CHANGE NOTICE (SCN) ID. See DOCUMENT ID.

SPECIFICATION ID NUMBER - See DOCUMENT ID.

SPECIFICATION TITLE - See DOCUMENT TITLE.

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STORAGE MEDIA - See MEDIUM ID.

SUBMITTING ACTIVITY AUTHORIZED SIGNATURE/TITLE. The name and title of the individual within the organization submitting the proposed change, authorized to sign the proposed document.

SUBROUTINE IDENTIFIER - See COMPUTER SOFTWARE UNIT.

SUSPENSE DATE. The date by which a specific activity is scheduled to be completed.

SYSTEM DESIGNATION - See SYSTEM/MODEL IDENTIFICATION NOMENCLATURE and MODEL/TYPE, MODEL.

SYSTEM/MODEL IDENTIFICATION CAGE. CAGE Code of the Design Activity for the System.

SYSTEM/MODEL IDENTIFICATION NOMENCLATURE. See NOMENCLATURE.

SYSTEM/MODEL IDENTIFICATION PART NUMBER. See PART IDENTIFICATION NUMBER.

TARGET PRODUCTION. An entry in this field indicates that the change affects an end item planned for production.

TARGET PRODUCTION DATE - See SUSPENSE DATE.

TARGET RETROFIT. An entry in this field indicates that the change affects an end item planned for retrofit.

TARGET RETROFIT DATE - See SUSPENSE DATE.

TDP NUMBER. An alphanumeric code identifying a Technical Data Package (TDP).

TECHNICAL DIRECTIVE - See MODIFICATION INSTRUCTION.

TECHNICAL MANUAL (TM) AFFECTED ID. The identifier (number) of a Technical Manual (TM) affected by a proposed change.

TEST PROCEDURE NUMBER - See DOCUMENT ID.

TEST PROCEDURE TITLE - See DOCUMENT TITLE.

TIME COMPLIANCE TECHNICAL ORDER - See MODIFICATION INSTRUCTION.

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TIME-CORRECT. Identify the time needed to correct the software/firmware problem, error, or enhancement (a start and stop time).

TITLE OF CHANGE. The title of the submitted change.

TOTAL SHEETS. The number of sheets/pages in a document.

TRANSMITTAL DATE - See DATE SUBMITTED.

TRANSMITTAL DOCUMENT ID. The identifier of a document utilized to identify the transmittal/shipment of an item/group of items.

VECP CONTRACT NUMBER. The contract under which a Value Engineering Change Proposal (VECP) was submitted and approved.

VECP CONTRACTOR NAME. The supply contractor submitting a Value Engineering Change Proposal (VECP).

VECP DECISION DATE - See DATE OF DECISION.

VECP NUMBER - See CHANGE ID.

VERIFICATION/EVALUATION OF SOFTWARE/FIRMWARE INTEROPERABILITY. Identify any possible interoperability problems and the date of the evaluation.

VERSION LEVEL - See SOFTWARE/FIRMWARE VERSION IDENTIFIER.

APPENDIX J

REPORTING THE ACCOMPLISHMENT OF
RETROFIT CHANGES

J.1   GENERAL

J.1.1   Scope. This Appendix defines the requirements to be invoked on contracts requiring the reporting of the accomplishment of retrofits and modifications to units of the CI that have been accepted by the buying activity. This Appendix is a mandatory part of the standard. The information contained herein is intended for compliance.

J.1.2   Applicability. This Appendix applies to system, computer software, and equipment contractors responsible for implementing approved Class I changes. This Appendix applies in active contracts as a part of the contract modification incorporating an ECP into the contract which requires retrofit activity on units controlled by the contractor.

J.2   APPLICABLE DOCUMENTS

This section is not applicable to this Appendix.

J.3   DEFINITIONS

J.3.1   Definitions used in this Appendix. For purposes of this Appendix, the definitions of terms contained in section 3 of this standard apply.

J.4   GENERAL REQUIREMENTS

J.4.1   Subcontractors. Prime contractors shall be responsible for compliance by subcontractors, vendors, and suppliers to the extent specified in the contract.

J.4.2   Recording Class I changes. The contractor shall record the accomplishment of class I changes for units of the system, computer software, equipment, and spares which are under his control. This requirement shall not be used to report the accomplishment of in-production changes prior to delivery or acceptance. The contractor(s) having custody of the CI unit(s) affected shall record the complete information for each unit modified upon accomplishment of the approved change.

J.5 DETAILED REQUIREMENTS

J.5.1 <u>Retrofit records</u>. The contractor shall generate records of retrofit accomplishment as directed in the contract. The record generated for each unit affected by the retrofit shall include the following specific elements of information:

a.   <u>Location</u>. The location where the retrofit was accomplished.

b.   <u>Identification of change</u>. The ECP number and retrofit instruction number, when applicable.

c.   <u>Configuration item affected</u>. The CI identification number, CI part number or software version number, and CI unit serial number, as applicable.

d.   <u>Date</u>. The date of installation on this serial numbered unit.

e.   <u>Part modified/replaced</u>. The old part number and, if appropriate, the serial number of the part/assembly removed or modified.

f.   <u>Part incorporated</u>. The new part number and, if appropriate, the serial number of the part/assembly incorporated or modified.

CROSS REFERENCE GUIDANCE ON THE RELATIONSHIP BETWEEN
CANCELLED MILITARY STANDARDS AND THIS STANDARD

K.1   GENERAL

K.1.1   Scope. This Appendix provides information about the
requirements paragraphs that were contained in the cancelled
standards (identified in 6.4); it provides the related paragraph in
this standard which provides essentially the same requirement or
that addresses the requirement area. Information contained in this
appendix is for guidance only.

K.1.2   Applicability. This Appendix applies to all programs
that are planning to apply this standard to an upcoming contract.
It is intended to supplement 6.2 and Tables II and III by providing
help in identifying requirements from this standard that should be
incorporated into the contract.

K.2   APPLICABLE DOCUMENTS

This section is not applicable to this Appendix.

K.3   CROSS REFERENCE GUIDANCE

K.3.1   Cross reference from MIL-STD-480B (15 July 1988).
Table IV provides a direct cross reference between each of the
paragraphs contained in MIL-STD-480B and the related paragraphs in
MIL-STD-973. Paragraph numbers from MIL-STD-973 followed by an
asterisk (*) address the MIL-STD-480B requirement but do not
necessarily require the exact same activities.

K.3.2   Cross reference from MIL-STD-481B (15 July 1988).
Table V provides a direct cross reference between each of the
paragraphs contained in MIL-STD-481B and the related paragraphs in
MIL-STD-973. Paragraph numbers from MIL-STD-973 followed by an
asterisk (*) address the MIL-STD-481B requirement but do not
necessarily require the exact same activities.

K.3.3   Cross reference from MIL-STD-482A (1 April 1974). Most
of the requirements formerly contained in MIL-STD-482A were deleted
and replaced by a dictionary of Configuration Status Accounting
Data Elements in Appendix I of this standard. That dictionary is
intended for guidance purposes only for this issue of MIL-STD-973.
Table VI provides a cross reference between each of the paragraphs
contained in MIL-STD-482A and the related paragraphs in MIL-STD-
973.

TABLE IV. <u>Cross reference from MIL-STD-480B (15 July 1988).</u>

MIL-STD-480B REQUIREMENT	MIL-STD-973 REQUIREMENT	MIL-STD-480B REQUIREMENT	MIL-STD-973 REQUIREMENT
3	3	5.1	5.4.2.2.1
4.1	4.5	5.1.1	5.4.2.2.2
	5.4.1	5.1.2	5.4.2.3
4.1.1	5.4.2.1	5.1.3	5.4.2.3.2
4.1.2	[EACH TYPE]	5.1.3.1	DELETED
4.2	5.4.2.2.3	5.1.3.2	5.4.2.3.2a
4.3	4.3.2	5.1.3.3	5.4.2.3.2b
4.3.1	N/A	5.1.3.4	5.4.2.3.2c
4.3.2	5.4.2.2.3.1	5.1.3.5	5.4.2.3.2d
4.3.3	5.4.2.3.6.1	5.1.3.6	5.4.2.3.2e
4.3.3.1	5.4.2.3.6.2	5.1.3.7	5.4.2.3.2f
4.3.4	5.4.2.3.6.3	5.1.3.8	5.4.2.3.2g
4.3.5	5.4.2.3.6.4	5.1.3.9	5.4.2.3.2h
4.3.6	5.4.2.3.6.5	5.1.4	5.4.2.3.3
4.3.7	5.5	5.1.4.1	5.4.2.3.3.1
4.3.8	5.4.2.2.3.3	5.1.4.1.1	5.4.2.3.3.1.1
4.3.8.1		5.1.4.2	5.4.2.3.3.2
4.3.8.1.1	5.4.6*	5.1.5	5.4.2.3.4
4.3.8.1.2	5.4.7*	5.1.5.1	5.4.2.3.4a
4.3.9	5.4.2.2.3.4	5.1.5.2	5.4.2.3.4b
4.3.10	5.4.2.3.4.1	5.1.5.3	5.4.2.3.4c
4.3.11	N/A	5.1.6	5.4.2.3.5
4.4		5.1.6.1	5.4.2.3.5.1
4.4.1	5.4.2.3.1.2	5.1.6.2	5.4.2.3.5.2
4.4.1.1	5.4.2.3.1.3	5.1.6.3	5.4.2.3.5.3
4.4.2	5.4.2.3.1.1	5.2	N/A
4.5		5.2.1	N/A
4.5.1	5.4.2.4.3	5.2.2	5.4.2.4.1
4.5.2	5.4.2.4.4	5.2.3	5.4.2.4.2
4.5.3	5.4.2.4.5	5.3	5.4.3
4.6	5.4.2.3.1.4	5.3.1	5.4.3.3
4.7	N/A	5.3.1.1	5.4.3.3.1
4.8	5.4.2.2.3.2	5.3.1.2	5.4.3.3.2
4.9	5.4.2.2.3.2	5.3.1.3	5.4.3.3.3
4.10	E.4.2*	5.3.2	5.4.3.1
4.11	E.4.3*	5.3.3	5.4.3.4
4.12	G.4.1*	5.3.3.1	5.4.3.4
4.13	N/A	5.3.4	5.4.3.4
4.14	6.3*	5.3.5	N/A
		5.3.6	5.4.3.5
		5.3.6.1	5.4.3.5.1
		5.3.6.2	5.4.3.5.2
		5.3.7	5.4.5.2

TABLE IV. <u>Cross reference from MIL-STD-480B (15 July 1988)</u>
<u>(continued)</u>.

MIL-STD-480B REQUIREMENT	MIL-STD-973 REQUIREMENT	MIL-STD-480B REQUIREMENT	MIL-STD-973 REQUIREMENT
5.4	5.4.4	5.6	
5.4.1	5.4.4.3	5.6.1	5.4.6*
5.4.1.1	5.4.4.3.1	5.6.2	N/A
5.4.1.2	5.4.4.3.2	5.6.2.1	5.4.6*
5.4.1.3	5.4.4.3.3	5.6.2.2	5.4.6.4
5.4.1.4	5.4.4.4*	5.6.2.3	5.4.6.5
5.4.1.5	5.4.4.4*	5.6.2.4	5.4.6.3
5.4.2	5.4.4.4*	5.6.3	5.4.6*
5.4.3	N/A	5.6.3.1	5.4.6.1
5.4.4	5.4.4.5	5.6.3.2	5.4.6.2
5.4.4.1	5.4.4.5.1		
5.4.4.2	5.4.4.5.2	APPX A	APPX D
5.4.4.3	5.4.4.2		
5.5	5.4.6*	APPX B	APPX E
	5.4.7*		
5.5.1	N/A	APPX C	APPX E
5.5.2	5.4.7*		
5.5.3	N/A	APPX D	APPX G
5.5.4	N/A		
		APPX E	APPX F
		APPX F	APPX D
		APPX G	6.2

TABLE V. <u>Cross reference from MIL-STD-481B (15 July 1988)</u>.

MIL-STD-481B REQUIREMENT	MIL-STD-973 REQUIREMENT	MIL-STD-481B REQUIREMENT	MIL-STD-973 REQUIREMENT
1.1	None	5.3	
1.2	None	5.3.1	5.4.8.4.4
1.3	5.4.8.1*	5.3.2	5.4.8.4.1
2	2*	5.3.3	5.4.8.4.5
3	3*	5.3.4	5.4.8.4.2
4.1	5.4.8.2*		
4.2	5.4.8.3*		
4.3	5.4.8.4*	APPX A	APPX D
5.1	5.4.2.2*		
5.2		APPX B	APPX E
5.2.1	5.4.8.3.4		
5.2.2	5.4.8.3.1	APPX C	APPX E
5.2.3	5.4.8.3.5		
5.2.4	5.4.8.3.2		

TABLE VI. <u>Cross reference from MIL-STD-482A (1 April 1974)</u>.

MIL-STD-482A <u>REQUIREMENT</u>	MIL-STD-973 <u>REQUIREMENT</u>	MIL-STD-482A <u>REQUIREMENT</u>	MIL-STD-973 <u>REQUIREMENT</u>
4	5.5	APPX I	DELETED
4.1	5.5.5		
4.2	5.5.2	APPX II	APPX I [EYE]
4.2.1	5.5.2		
4.2.2	5.5.3	APPX III	DELETED
4.2.3	DELETED		
5.1	5.5.5		
5.2	DELETED		
5.3	DELETED		

K.3.4 <u>Cross reference from MIL-STD-483A (5 June 1985)</u>. Table VII provides a direct cross reference between each of the paragraphs contained in MIL-STD-483A and the related paragraphs in MIL-STD-973. Paragraph numbers from MIL-STD-973 followed by an asterisk (*) address the MIL-STD-483A requirement but do not necessarily require the exact same activities.

K.3.5 <u>Cross reference from MIL-STD-1456A (11 September 1989)</u>. Table VIII provides a direct cross reference between each of the paragraphs contained in MIL-STD-1456A and the related paragraphs in MIL-STD-973. Where lettered subparagraphs exist in MIL-STD-973 under the numbered paragraphs listed, those subparagraphs are also applicable unless a specific lettered subparagraph in MIL-STD-973 is cited.

K.3.6 <u>Cross reference from MIL-STD-1521B (5 June 1985)</u>. Most of the requirements formerly contained in MIL-STD-1521B, Appendixes G, H, and I, were incorporated into MIL-STD-973; the requirements from Section 4 of MIL-STD-1521B are now essentially repeated in MIL-STD-973. Table IX provides a direct cross reference between each of the paragraphs contained in MIL-STD-483A and the related paragraphs in MIL-STD-973. Paragraph numbers from MIL-STD-973 followed by an asterisk (*) address the MIL-STD-1521B requirement but do not necessarily require the exact same activities.

TABLE VII. <u>Cross reference from MIL-STD-483A (4 June 1985)</u>.

MIL-STD-483A <u>REQUIREMENT</u>	MIL-STD-973 <u>REQUIREMENT</u>	MIL-STD-483A <u>REQUIREMENT</u>	MIL-STD-973 <u>REQUIREMENT</u>
3.1	4.1	Figure 1	[MIL-STD-490]
3.1.1	4.2	Figure 2	Figure 1
	5.2.1	Figure 3	DELETED
3.2	5.3.4	Figure 4	[MIL-STD-490]
3.3	N/A		
3.3.1	[MIL-STD-499]	<u>APPX I</u>	APPX A*
3.3.2	5.3.7		
3.4	4.4	<u>APPX II</u>	5.3.7*
	5.3.1	Figure 5	DELETED
	5.3.3	Figure 6	DELETED
3.4.1	5.3.4.1.1	Figure 7	DELETED
3.4.2	5.3.4.1.2		
3.4.3	5.3.4.1.3	<u>APPX III</u>	[MIL-STD-490]
3.4.3.1	N/A		
3.4.3.2	N/A	<u>APPX IV</u>	DELETED
3.4.3.3	N/A	Figure 8	DELETED
3.4.4	5.3.4.1		
3.4.5	DELETED	<u>APPX V</u>	[MIL-STD-490]
3.4.6	[MIL-STD-490]		
3.4.7	[MIL-STD-490]	<u>APPX VI</u>	[MIL-STD-490]
3.4.7.1	[MIL-STD-490]		
3.4.7.2	[DOD-STD-2167]	<u>APPX VII</u>	5.4.6
3.4.7.3	[MIL-STD-490]		APPX F
3.4.8	DELETED	Figure 9	Figure 11
3.4.9	5.3.4	70.10	DELETED
3.5	5.4.6*	Figure 10	DELETED
3.6	5.3.6	Figure 11	DELETED
3.7	5.3.5		
	APPX B	<u>APPX VIII</u>	
3.8	DELETED	80.1	N/A
3.9	5.6	80.2	N/A
3.9.1	5.6.2	80.3	N/A
3.9.2	5.6.3	80.4	5.4.2.2.1*
3.9.3	N/A	80.4.1	N/A
3.9.4	DELETED	80.4.2	5.4.2.4*
3.9.5	N/A	80.5	N/A
3.10	5.4	80.5.1	5.4.2.3.3.1.1.
3.11	5.5.8	80.5.2	N/A
	APPX J	80.5.3	5.4.6
3.12	5.5	80.5.4	N/A
	APPX H	80.5.5	N/A
3.13	5.4.2.3.3.1.2	Figure 12	DELETED
3.14	DELETED	Figure 13	DELETED
3.15	[MIL-STD-490]	Figure 14	DELETED
		Figure 15	DELETED

TABLE VII. <u>**Cross reference from MIL-STD-483A (4 June 1985)**</u>
<u>**(continued)**</u>.

MIL-STD-483A REQUIREMENT	MIL-STD-973 REQUIREMENT	MIL-STD-483A REQUIREMENT	MIL-STD-973 REQUIREMENT
<u>APPX IX</u>	5.3.6*	<u>APPX XIII</u>	N/A
		Figure 19	DELETED
<u>APPX X</u>	APPX B		
		<u>APPX XIV</u>	[IN APPX D*]
<u>APPX XI</u>	DELETED		
Figure 16	DELETED	<u>APPX XV</u>	APPX J
Figure 17	DELETED	Figure 20	DELETED
Figure 18	DELETED		
		<u>APPX XVI</u>	DELETED
<u>APPX XII</u>	5.6		
		<u>APPX XVII</u>	[MIL-HDBK-61]

TABLE VIII. <u>**Cross reference from MIL-STD-1456A**</u>
<u>**(11 September 1989)**</u>.

MIL-STD-1456A REQUIREMENT	MIL-STD-973 REQUIREMENT	MIL-STD-1456A REQUIREMENT	MIL-STD-973 REQUIREMENT
3 (Appendix A)	3	5.2.5.1(incl subs)	A.5.1.6
4 (incl subs)	4.2	5.2.5.2	A.5.1.6b
5.1	A.4.2	5.2.5.3	A.5.1.5
5.2	5.2.1, A.5.1	5.2.5.4	A.5.1.5
5.2.1	A.5.1.1	5.2.6 (incl subs)	A.5.1.9
5.2.2	A.5.1.2	5.2.7 (incl subs)	A.5.1.11
5.2.3	A.5.1.3	5.2.8	A.5.1.10
5.2.4	A.5.1.4	5.2.9 (incl subs)	A.5.1.9e
5.2.4.1	A.5.1.4b	5.2.10 (incl subs)	A.5.1.12
5.2.4.2	A.5.1.7	5.2.11	A.5.1.13
5.2.4.3	A.5.1.4d	5.2.12	A.5.1.14
5.2.5	A.5.1.6	5.3 (incl subs)	[MIL-HDBK-61

TABLE IX. Cross reference from MIL-STD-1521B (4 June 1985).

MIL-STD-1521B REQUIREMENT	MIL-STD-973 REQUIREMENT	MIL-STD-1521B REQUIREMENT	MIL-STD-973 REQUIREMENT
4.1	5.6.1	APPX H - PCA	
4.1.1	5.6.1.1	80.1	5.6.3*
4.1.2	5.6.1.2	80.2	5.6.3.1
4.1.3	5.6.1.3	80.2.1	5.6.3.1
4.1.3.1	5.6.1.3a	80.3	5.6.3.2
4.1.3.2	N/A	80.3.1	5.6.3.2
4.1.3.3	5.6.1.3b	80.3.2	5.6.3.2d
4.1.3.4	5.6.1.3c	80.3.3	5.6.3.2e
4.1.3.5	5.6.1.3d	80.3.4	5.6.3.2.5
4.1.3.6	5.6.1.3e	80.4	5.6.3.3
4.2	5.6.1.4	80.4.1	5.6.3.3
4.3	5.6.1.3d*	80.4.1a	5.6.3.3a
	5.6.2.5	80.4.1b	5.6.3.3b
	5.6.3.5	80.4.1c	5.6.3.3c
		80.4.2	5.6.3.3e
		80.4.3	5.6.3.3f
APPX G - FCA		APPX B	
70.1	5.6.2*	80.4.4	N/A
70.2	5.6.2.1	80.4.5	5.6.3.3g
70.2.1	5.6.2.1	80.4.6	5.6.3.3h
70.3	5.6.2.2	80.4.7	5.6.3.3i
70.3.1	5.6.2.2a	80.4.8	5.6.3.3j
70.4	5.6.2.3	80.4.9	5.6.3.3k
70.4.1	5.6.2.3a	80.4.10	5.6.3.3l
70.4.2	5.6.2.3b	80.5	5.6.3.4
70.4.3	N/A		
70.4.4	5.6.2.3d		
70.4.5	5.6.2.3e*		
70.4.6	5.6.2.3f	APPX I - FQR	DELETED
70.4.7	5.6.2.3g		
70.4.8	5.6.2.3h		
70.4.9	5.6.2.2c		
70.4.10	N/A		
70.4.11	5.6.2.3i		
70.4.12	5.6.2.3j*		
70.5	5.6.2.4*		

K.3.7 Cross reference from DOD-STD-2167A (29 February 1988).
The requirements for various configuration management activities
contained in DOD-STD-2167A have been integrated into the overall
configuration management requirements in MIL-STD-973. Table X
provides a cross reference between applicable paragraphs contained
in DOD-STD-2167A and the related paragraphs in MIL-STD-973 into
which these requirements have been integrated.

TABLE X. <u>Cross reference from MIL-STD-2167A (29 February 1988)</u>.

MIL-STD-2167A REQUIREMENT	MIL-STD-973 REQUIREMENT	MIL-STD-2167A REQUIREMENT	MIL-STD-973 REQUIREMENT
4.1.8	5.3.3.3	5.1.5	4.3
4.1.9	5.3.3		5.3.3.1
4.1.10	5.3.3	5.2.5	5.3.4
4.5	4.2	5.3.5	4.3
	4.4		5.3.3.1
	4.5	5.4.5	4.3
	4.6		5.3.3.1
	4.7		5.3.4
4.5.1	4.4	5.5.5	4.3
	5.3.4		5.3.3.1
	5.3.6		5.3.3.3
	5.3.6.5		5.3.4
	5.3.6.7.1	5.6.5	5.3.3
	5.3.6.7.2	5.7.5	5.3.4
	5.3.6.7.3		5.6
	5.3.7		5.6.3.2
4.5.3	4.6	5.8.5	5.4.2
	5.5		
	APPX H		
4.5.5	5.4.2		

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